IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF MISSISSIPPI
OXFORD DIVISION

ORIGINAL

KELLI DENISE GOODE, Individually, and also as the Personal Representative Of Troy Charlton Goode, Deceased, and as Mother, Natural Guardian,and Next Friend of R.G., a Minor, and also on behalf Of all similarly situated persons,

Plaintiff,

CIVIL ACTION NO.3:17-cv-060-DMB-RP

vs.

THE CITY OF SOUTHAVEN, TODD BAGGETT, individually, JEREMY BOND, Individually, TYLER PRICE, Individually, JOEL RICH, Individually, JASON SCALLORN, Individually, STACIE J. GRAHAM a/k/a WITTE, Individually, MIKE MUELLER, Individually, WILLIAM PAINTER, JR., Individually, BRUCE K. SEBRING, Individually, JOSEPH SPENCE, Individually, RICHARD A. WEATHERFORD, Individually, JOHN DOES 1-10, BAPTIST MEMORIAL HOSPITAL - DESOTO, A Mississippi Corporation, SOUTHEASTERN EMERGENCY PHYSICIANS, INC., a Tennessee Corporation, and LEMUEL DONJA OLIVER, M.D.,

Defendants

WEB CONFERENCE GO TO MEETING
DEPOSITION OF DAVID E. NICHOLS, Ph.D.

(Taken by Defendants)
Chapel Hill, NC 27517
September 1, 2017

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FILE NO: AB088A9

The deponent read and signed this deposition transcript.

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behalf of Defendant, before Joan Comparato, Court Reporter and Notary Public in and for the State of North Carolina, at Hampton Inn of Chapel Hill 6121 Farrington Road, Boardroom, Chapel Hill, NC, on September 1, 2017 commencing at 9:19 a.m.(EST).

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(Referred to and not provided to Court Reporter)

(Exhibit One Marked Confidential)

(Whereupon, the following proceedings were had:)

WHEREUPON:

THE REPORTER: Doctor, can I ask you to raise your right hand, please?

Do you solemnly swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

THE WITNESS: I do.

DAVID E. NICHOLS, PH.D.,

having been duly sworn, was examined and testified under oath as follows:

DIRECT EXAMINATION

BY MR. PHILLIPS:

Q. Tell us your name, please.

A. David Earl Nichols.

Q. Dr. Nichols, we meet a little while ago. I'm Marty Phillips and in this case I'm one of the lawyers who represents Dr. Oliver, one of the defendants in this case.

As you're aware, you've been identified as an expert on behalf of the plaintiff, somebody who may be called to testify to give opinions in the case.

You understand that?

A. Yes.

Q. And you understand we're here to ask you some questions about the opinions that you hold in the case, right?

A. Right.

Q. All right. You have given depositions before, have you?

A. I have.

Q. So you understand how the process works and I need not explain the importance of communicating clearly and telling me if you don't understand my question and we'll move on?

A. Exactly.

Q. Okay. Good. Is LSD an illegal drug?

A. Yes, it is.

Q. Is it illegal in all 50 states?

A. I believe it is, yes.

Q. Is it illegal under Federal law, too?

A. Yes.

Q. Do you know why it is classified as an illegal drug?

A. That's a determination that Congress made.

Q. Understood. But do you know what goes into determining weather a drug is legal or illegal?

A. LSD is in Schedule 1. To be in Schedule 1, there are three prongs. It's a three-prong test. First it has to have high potential for abuse which basically means people take it without a prescription.

Secondly, it has no recognized medical utility,

and third, it's not recognized to be safe when administered by a physician.

Q. And LSD is, in fact, a Scheduled 1 drug?

A. It is.

Q. The scheduled status of a drug is determined by who?

A. The Drug Enforcement Administration. There are guidelines. The head of the DEA, in conjunction with people in the Drug Enforcement Administration do that. The determination of whether something has medical utility or not would be done by the Food and Drug Administration. So these are all the drugs that have not been certified by FDA to have a medical use.

Q. Are you aware how LSD impacts or can impact an individual negatively?

A. Negatively, someone can have what's called a bad trip. Those generally are characterized by high levels of anxiety, disorientation, panic sometimes, on occasion paranoid thinking. Those are the typical adverse effects and they're psychological with LSD.

Q. Okay. Are those inclusive of the psychological effects, or are there other psychological effects?

A. You mean adverse effects?

Q. Yes.

A. I mean, that covers a broad range of things.

Anxiety, broad levels of anxiety, panic disorder, disorganized thinking, some hallucinations. Those are pretty broad categories.

Q. A lot of conductive reaction can fall within those broad categories, is that what you indicated?

A. With a -- with a bad trip, it depends. Most of those people are safely handled by friends or by trained personnel. Usually the standard treatment would be put them into an area with low stimulus, no noise, and reassurance that it's the drug, that it'll pass. Sometimes a benzodiazepine might be given. So basically they are just calmed down. So normally that would be the outcome.

There are cases where people having a bad trip can try to rock climb or drive a car, try to swim, things like that, that would be endangering to their health. So those would be outcomes. You might see some bizarre behavior, but usually it's -- it's not really greatly exaggerated.

Q. In looking at the materials that you have provided in response to the deposition notice before we went on the record, I noticed that it appears you have not reviewed any medical records in this case or any depositions in this case. Am I right about that?

A. I have the -- the report by the PharmD. What was

his name? Farr, I think. I didn't -- and I don't have copies of that, so I did look at that.

There's another one that I didn't copy because it was really long and I thought I would check with you to find out whether you needed copies of those.

Q. Okay.

MR. UPCHURCH: Would the doctor keep his voice up, please?

THE WITNESS: Okay. Sorry.

MR. PHILLIPS: We're going to adjust the position of the microphone a little bit. Let me know if you have trouble hearing me.

THE WITNESS: You should be able to hear me now. Is that better?

MR. UPCHURCH: It is. Before you get started back. I just received an e-mail from Matt Macaw in Trey's office. He said that Steve from their office should be there in person. He said that was the plan, anyway. So you might have someone joining you shortly.

MR. PHILLIPS: All right. We'll be on the look-out. Thank you.

BY MR. PHILLIPS:

Q. Dr. Farr is an expert identified by Baptist Hospital, and I think what you're telling me is you have

read his expert report in this case?

A. That's the PharmD?

Q. Yes, sir.

A. Yes.

Q. Okay. What I was asking about is whether you had read medical records of treatment provided to Troy Goode, and I didn't see any of those among the materials.

A. There -- there should be a description of the clinical situation, what happened to him, how he was treated, when he was picked up, and where he was taken.

Q. I saw a letter --

A. Right. That's probably --

Q. It appears to be a letter from Dr. Wecht to Mr. Tim Edwards dated September 28, 2015.

A. Right.

Q. Is that what you're referring to?

A. Yes.

Q. Okay. This is not a medical record describing Mr. Goode's treatment, though, is it?

A. No, that's an interpretation of his treatment, yes.

Q. Have you reviewed any medical records pertaining to Mr. Goode's treatment?

A. Other than that, I don't think so.

Q. Okay. Since we've referred to it, I want to mark as Exhibit One the letter from Dr. Wecht to Mr. Edwards dated September 28th, 2015.

(Whereupon, the document was marked as Defendant's Exhibit One for Identification.)

BY MR. PHILLIPS:

Q. We don't have any depositions here among the materials you've reviewed, do we?

A. No.

Q. And am I to take it, then, that you have not reviewed any depositions in this case?

A. No, I -- well, the one from -- depositions?

Q. Yes.

A. No, no depositions.

Q. Other than this letter which we've marked as Exhibit One, have you been provided with any other factual summary or information about the events of July 18, 2015?

A. I thought there was one other short clinical report. Look at the middle page there. Summary of clinical history, yes. This is the other one.

Q. Okay.

A. That's the only other one I've seen.

Q. Do you know who prepared this summary?

A. No, I don't.

Q. We'll mark this clinical summary as Exhibit Two.

(Whereupon, the document was marked as Defendant's Exhibit Two for Identification.)

MR. PHILLIPS: Somebody's at the door. We're going to pause a minute.

(Discussion held off the record.)

BY MR. PHILLIPS:

Q. The report that you authored in this case is dated January 11, 2016, right?

A. Right.

Q. Did you receive Exhibits One and Two before or after you drafted your report?

A. I honestly couldn't say at this time.

Q. It's true, isn't it, that your report doesn't make reference to any of the facts set forth in Exhibit One or Exhibit Two?

A. Yeah, I just refer to the forensic reports of his LSD concentration, that's true.

Q. That's right, but none of the events of July 18, 2015 leading up to his death?

A. That didn't factor into my report, yes.

Q. I'm sorry?

A. That did not factor into my report, that's true.

Q. Did the information in Exhibit One or Exhibit Two have any impact on your opinions in the case?

A. Subsequent to my report, I don't think I cited those in my report.

Q. That's right.

A. Yeah.

Q. We established that. So am I correct to say that because you didn't reference it in the report or because you didn't supplement your report to refer to it, they had no impact and were not part of your consideration?

A. With respect to the report, yes.

Q. Okay. Do you know Dr. Wecht?

A. No, I don't.

Q. I think you told me that you don't even know who drafted Exhibit Two.

A. That's correct.

Q. Do you have any opinions about how LSD impacted Troy Goode's conduct on July 18, 2015, or is that information beyond what you know about this case?

A. Well, my impression is that he had a bad -- essentially had a bad trip, and as a result of his behavior he had an encounter with the police use of force.

Q. Is it your opinion that LSD ingestion caused the erratic and unusual behavior of Troy Goode on July 18, 2015?

A. That would be consistent with the idea of having

a bad trip, yes.

Q. And did you assume the details describing his behavior as noted in Exhibits One and Two to be true?

A. Did I -- I assumed they were true, yes.

Q. Okay. You accept the fact that he took LSD on July 18, 2015?

A. Well, the forensic lab tested his blood and found LSD, so obviously he had LSD in his system.

Q. So you have information by history that he had taken it and you have proof at the time of his death because it's in his system, right?

A. Yes.

Q. Exhibit Two makes reference to the fact that after he took the LSD he became frightened and claustrophobic. Do you attribute those conditions to his LSD ingestion?

A. Those would be -- could be components of a bad trip, yes.

Q. Exhibit One makes reference to the fact that Mr. Goode told his wife, quote, I think I took too much, end quote. Do you understand that to refer to LSD?

A. In that context I would think that's what he's referring to.

Q. Exhibit One makes reference to the fact that Mrs. Goode got Mr. Goode in the car and they started to

leave the area where they had planned to attend a concert and he began feeling claustrophobic and then got out of the car. Do you attribute that behavior to LSD?

A. That would be logical.

Q. Exhibit One further says that Mr. Goode paced in circles saying, I don't know what to do, I don't know what to do. Do you attribute that to LSD?

A. That would be consistent with him having a bad trip.

Q. Is it your understanding that Mr. Goode ingested three to five drops of LSD?

A. It's hard to know what that means because without quantification you wouldn't know how much was in the solution. Typically doses of LSD are lower than have been in the past, and based upon the analysis of his blood post-mortem, he would not have had that many doses in the system.

Q. Do you remember seeing reference to the history that he had taken three to five drops?

A. I don't know that I saw that before I wrote my report, but I've seen it in these.

Q. Would it be fair to say that irrespective of the amount he took, he took enough to make him have a bad trip?

A. Yes.

Q. I notice, Dr. Nichols, that attached to Exhibit One, which is the letter from Dr. Wecht to Mr. Edwards, there are some materials about LSD contained in here and then there is a picture with some information about LSD.

Did you read all this material and consider it pertaining to LSD in the letter from Dr. Wecht?

A. I started to scan it, but it was all information that I basically knew, so I didn't read it carefully.

Q. Is this all information with which you agree?

A. Well, now I'd have to read through and see if I agree with everything in there.

Q. There is a section above a picture of a man from the waist up that's labeled physical effects of LSD. Do you see that?

A. Yes.

Q. Do you agree with those physical effects listed there?

A. Some of these are exaggerated. For example, increased temperature. There's only a slight increase in temperature. Mouth, there may or may not be dryness. High blood pressure is usually trivial. It's not significant. Profuse sweating is typically not something you would see necessarily in someone who had a bad trip. Heart rate is usually not increased that much. So these are like the maximal, kind of

exaggerated.

Muscle numbness, weakness, tremors. There might be some weakness. LSD has an analgesic effect, so there would be an insensitivity to maybe pain. Gastric nausea, you don't see that very often. So some of these are exaggerated.

A lot of this kind of information that's out there is not -- is not really completely correct, but some of these would generally talk about some of the symptoms.

Q. You understand this is information that Dr. Wecht, another one of the plaintiff's experts, has provided about LSD?

A. It's attached to his, yeah, his letter.

Q. Okay. When I was asking you about the negative effects of LSD earlier, you didn't mention any physical effects, did you?

A. Physiologically there really aren't many significant effects.

Q. Are there physical effects that LSD causes as indicated in Dr. Wecht's materials we've marked as Exhibit One?

A. They're very minor.

Q. Well, are there some physical effects of LSD?

A. There are some mentioned, but they are not

considered medically relevant.

Q. Are there physical effects of a bad trip on LSD distinguished from LSD use that does not result in a bad trip?

A. A bad trip would involve panic, anxiety, sometimes fear, paranoia. So you would see activation of what we would call the fight or flight reflex. Increase of release of adrenaline, for example, epinephrine. Those would lead to maybe increased heart rate, increased blood pressure, confusion, sweating. So they would be a little different than the typical effect of LSD.

Q. Is it generally correct, then, that the physical effects of LSD would be different if an individual were experiencing a bad trip from LSD?

A. Yes, I would say that's probably true.

Q. Did you conclude also in your review that Mr. Goode had used marijuana on July 18, 2015?

A. Yeah, I saw that in the forensic analysis.

Q. Do you recommend that people use LSD?

A. Recommend that they use it?

Q. Yes.

A. Recreationally? No.

Q. Do you recommend that people use LSD for any purpose?

A. People being the general population?
Q. Yes.
A. Yeah, I don't recommend that.
Q. And if someone were using LSD recreationally and they sought your advice about that, you would tell them to stop using it, wouldn't you?
A. I would say, yes, it's -- there are a lot of problems associated with it.
Q. And why would you give the advice to some inquiring person that he should stop using LSD recreationally?
A. Well, there are two reasons. One would be that he might get caught by the police, which is probably more damaging than LSD in most cases, and the other would be that he would have a chance of having a bad trip.

That's sort of the thing that people worry about because you could have a bad trip at any time. Even people who have taken hundreds of doses of LSD can take a dose and have a bad trip. So those could be very psychologically challenging.

Q. I have addressed you as Dr. Nichols and that is appropriate because you hold a Ph.D., right?
A. Yes.
Q. And you're not, however, a medical doctor?

A. No, I'm not.
Q. If the records indicate that Mr. Goode was talking out of his head on July 18, 2015, would that, too, be consistent with a bad trip from LSD?
A. Yes, I think so.
Q. If the records indicate that he was yelling, screaming, and cussing, would that be consistent with a bad trip from LSD?
A. I think it could be.
Q. If the records indicate that he was combative, would that be consistent with a bad trip from LSD?
A. Combative implies that he's fighting with someone.
Q. Right.
A. If he wasn't -- if there was no one to fight with, he wouldn't necessarily be combative. You're anxious, you're afraid, you're paranoid. Unless there's someone to fight, you wouldn't be combative. So if you were -- if someone was interacting with you, you might be combative.
Q. Okay. In part because of a bad trip from LSD?
A. Well, you know, this is a complex question. If the bad trip from LSD involved, for example, paranoia and fear that someone was, say, trying to kill you, then any kind of an interaction with someone else might be

taken as their attempt to actually kill you, to carry out -- this is paranoid thinking, to carry out an attack on you and kill you. So then you could become very violent in that case because you would be probably trying to defend your life.

We don't know what is in the person's mind who has a bad trip, but it's quite possible that if they perceive that they were being assaulted and there was a threat on their life, that they could be combative and assaultive.

Q. Does LSD cause psychosis?

A. In individuals who are predisposed to psychotic illness, it can precipitate psychosis.

Q. What is psychosis?

A. It's a disconnection basically from reality, an inability to distinguish reality from imagination, thought disorder.

Q. Is delirium different from psychosis?

A. I'm not a psychiatrist, but I would say that it is different. It would be a different categorization in the DSM category.

Q. Does LSD cause delirium?

A. In a bad trip it could, I think.

Q. Does LSD cause hallucination?

A. It can.

Q. Does LSD impact the heart rhythm?
A. Generally there's only very minor effects on the heart.
Q. Does LSD impact the heart rhythm?
A. Can it in general?
Q. Yes.
A. I suppose you could find cases where it had some effect on the heart.
Q. Particularly if a person is having a bad trip?
A. Well, if you're having a bad trip, their nervous system and simplex system is activated, so you're going to see increased heart rate and blood pressure.
Q. You have reviewed the autopsy report and the toxicology studies done in conjunction with the autopsy, haven't you?
A. Yes.
Q. And you have there in your hand those materials, the tox screen and the autopsy report?
A. Yes.
Q. Let's mark those collectively as Exhibit Three.
(Whereupon, the document was marked as Defendant's Exhibit Three for Identification.)
BY MR. PHILLIPS:
Q. On the tox screen, Dr. Nichols, I'm going to turn to this for your convenience, on this page that says at

the top page 3 of 5, there's a section that says reference comments, and No. 5 pertains to LSD.

Let me hand you the document so you can look at that particular section, please, sir.

A. Okay.

Q. Do you agree with those comments in the tox screen document which I just referenced to you?

A. So it says physiological effects are primarily sympathomimetic and may include mydriasis, hypothermia, seizures are very rare, so it may include and may be very rare, panic and paranoid reactions would specifically apply to bad trips. That wouldn't be normally what would happen. Flashback reactions are not uncommon. They're not called flashbacks now. It's HPPD. Hallucination persisting perceptual disorder. They're -- they're not common. It says they're not uncommon, but they're not common.

Q. Do you agree with the sentence that you read describing the physiological effects of LSD?

A. Sympathomimetic mydriasis is usually pretty marked. Hypothermia, there's, you know, hypothermia, you don't think of a half a degree, but, yes, you know, it would be hypothermia. Seizures, I -- that would be very rare. You don't see seizures typically with LSD. Panic and paranoid reactions you can see with a bad

trip.

So they've collected everything here, whether it's ordinary doses or doses that produce adverse effects.

Q. So you agree with that sentence pertaining to --

A. Generally.

Q. -- physiological effects?

A. Generally.

Q. If the records, and I'm speaking now the medical records and deposition testimony state that Mr. Goode appeared floridly psychotic on July 18, 2015, would that be consistent with a bad trip from LSD?

A. Yes, I think so.

Q. If the records attributed statements to him such as, I don't know how to explode, would that be consistent with a bad trip from LSD?

A. In my opinion, yes.

Q. You don't have any information about Mr. Goode's prior use of LSD?

A. I think I saw a reference somewhere that he had had prior experience and had gone to the hospital, but I don't know anything more than that.

Q. Do you understand that he had had at least two prior bad trips from LSD?

A. I'm not aware of that.

Q. If a person has a bad trip from LSD, can one reasonably expect to have additional bad trips if he uses LSD again?

A. Well, if he had two previous bad trips, I think it would be unwise of him to take LSD again because, you know, having one bad trip wouldn't mean that you would have another one necessarily, but if you had two, I think it would be unwise to take LSD again.

Q. And it would be unwise because of the likelihood of another bad trip.

A. Another bad trip, yeah, in my opinion.

Q. Which can lead to destructive behavior and harmful behavior, right?

A. Well, it could lead to. It wouldn't necessarily.

MR. PHILLIPS: We're pausing. Steve Miller just joined us, so we'll give him a minute to set up.

(Short recess taken.)

BY MR. PHILLIPS:

Q. Okay. Doctor, for the benefit of those attending remotely, we're going to change topics just a minute here to identify some of these other documents that you have.

You brought with you what you were requested to bring in response to the deposition notice, correct?

A. I tried to, yes.

Q. Let's mark the deposition notice as Exhibit Four.

(Whereupon, the document was marked as Defendant's Exhibit Four for Identification.)

BY MR. PHILLIPS:

Q. Is this collection of documents information about your income and serving as an expert as well as your billings for this particular case?

A. Yes.

Q. Let's mark this material as Exhibit Five.

(Whereupon, the document was marked as Defendant's Exhibit Five for Identification.)

BY MR. PHILLIPS:

Q. Does Exhibit Five include all of your bills for your work in this particular case up until the time the deposition started today?

A. Yes.

Q. I see an invoice dated here February 26, 2016, listing four-and-a-half hours of work.

A. Yes.

Q. Would that be the work that you performed in order to draft your report, which was done in January of 2016?

A. Yes.

Q. Do you know how much of that four-and-a-half hours you spent actually preparing your report?

A. Reading papers, researching papers, writing, I mean, basically all of it.

Q. So there wasn't much time spent reviewing case-specific materials in arriving at your opinion, most of the time was spent fashioning the report; is that right?

A. No, I mean, I couldn't write the report without doing some research, looking at his blood level of LSD, finding papers that talked about blood levels of other studies that have been done, epidemiology of how many people have taken LSD, so I did some library research.

Q. Okay. So that wasn't information that you readily knew, you had to do some research to ferret out that information?

A. Well, I knew a lot of that, but you have to document it. I can't -- if I just say, well, I know that this many people have taken LSD, well, how do you know that? So I had to find the references, the actual references.

Q. Would it be true that the only factual information that you needed to prepare your report pertaining specifically to Troy Goode was the level of LSD in his blood at the time the tox screens were done?

A. That, and the conclusion that he had died of indirect LSD toxicity.

Q. Okay. I'm going to refer to this document as a colored bar graph.

A. Yeah.

Q. Is that descriptive enough for our purposes?

A. Sure.

Q. I'm going to mark it as Exhibit Six.

(Whereupon, the document was marked as Defendant's Exhibit Six for Identification.)

BY MR. PHILLIPS:

Q. Would you tell us why you brought that to the deposition?

A. I hadn't thought about a court trial, and when the request was for any potential demonstratives in my views, one issue that I would probably address was the relative safety of LSD.

This was a comprehensive report done by the drug czar in England for Queen Elizabeth, which illustrates based on a big survey, the relative harms of LSD compared with other types of drugs and abuse. So this is something I would use to demonstrate LSD's weight over here. It's not a harmful drug so that would be a reason for that.

Q. When you characterize LSD as a safe drug, you're not saying it's good for you?

A. Under conditions where it's administered by a

trained therapist, it probably would be good for you.

Q. Just from the lay person's perspective, there seems to be, from my seat, some disparity between a drug that's illegal that can lead to destructive and injurious consequences and also characterizing that drug as a safe drug.

Do you understand that --

A. Yeah.

Q. -- the issue there?

A. Physiologically LSD is probably one of the safest drugs that's ever been discovered. The incidents of bad trips is relatively small. They usually resolve fairly readily, but LSD has been used to improve outlook on life. It's been used to treat depression in cancer patients.

It's been used to decrease alcohol intake in alcoholics. It increases appreciation of music. These are -- a lot of clinical studies have been done in the last few years.

In general, it also increases the personality trait of openness. People become more open, more forgiving, more humanitarian. So under the conditions where its administered in a controlled setting by a trained therapist, LSD would have -- usually would have a positive effect on someone. Not recreational,

necessarily.

Q. Okay. Of course, in this case we're dealing with someone who was recreationally using LSD, not some supervised administration like you're describing, right?

A. Right.

Q. And in the context of a person using the drug recreationally and having a bad trip, would you still characterize the drug as being safe?

A. Well, it certainly wasn't safe for Mr. Goode.

Q. And Exhibit Seven is another graph. How would you describe that?

A. So there was a study done of blood levels of LSD. There was an earlier study that was published. This was a much better one published in 2015. They actually have a study out in 2017, and what they did is measure blood levels of LSD after an oral dose.

In this case it's about two-and-a-half doses of LSD and it shows blood levels at various times, and so what this was is his -- Mr. Goode's blood level was measured approximately five hours after he had ingested the LSD to show where that would lie, and given the two-dose administration, he would expect to see about two nanograms per milliliter, and actually he was about one nanogram. So he's much lower.

The updated reference from these people in 2017

has both a plot for two dose and one dose, and I don't have that. This one I didn't have at the time. I was getting ready for this but. I would probably use that one, but it's the same thing.

It would be to illustrate here's where his blood level was just to show that he hadn't taken an unreasonable amount of LSD.

(Whereupon, the document was marked as Defendant's Exhibit Seven for Identification

Q. What we see, then, in Exhibit Seven is a graph that you have adapted --

A. Right.

Q. -- from Dolder, but the information in here is the amount actually in Troy Goode's system as demonstrated by the tox screens?

A. No. So this represents 16 individuals who were given about 246 micrograms of LSD orally and then they took samples of their blood at various times.

Q. I see.

A. So Mr. Goode, his blood sample was approximately five hours old, and so what I've done is just show five hours. That's the concentration you would expect to see if he had taken in this case two doses. His blood level is about half of that.

So just to show that he had not taken an

unreasonable amount. He was well within. You might see a huge dose and then you can say, you know, he overdosed.

Q. If I understand correctly, the information on Exhibit Seven is not specific to Mr. Goode, but something you may use to illustrate a point with regard to Mr. Goode?

A. Right. Right. If he had taken a large dose, you wouldn't expect to see it on the curve where I marked it there. It would be off that curve above.

Q. The dose here was obviously large enough to cause a bad trip, right?

A. Well, not -- these are all volunteers. None of them had bad trips.

Q. When I'm saying here, I'm speaking about Mr. Goode.

A. Yeah, yeah.

Q. Is that right?

A. Yeah, he had a reaction.

Q. Okay. In looking at Exhibit Seven, you have put the five-hour mark down lower because that's the time at which his blood was drawn, five hours after ingestion. Is that your estimate?

A. That's what I believe was estimated of the blood draw time.

Q. All right. So what this graph would also tell us is that the level of LSD in Mr. Goode's body had been dropping and had reached its peak and was dissipating by the time the level was taken?

A. Right.

Q. So that at the time of his encounter with the police and his encounter with the folks at the hospital, his LSD level was higher than what the tox screen indicated; would that be accurate?

A. No, immediately upon his death, if they drew blood samples, or whenever they drew them, that would reflect the concentration. It was higher when he first took the LSD, but it wouldn't have been as high as this because at the five hours he was still down at -- he was down at one.

What I'm showing here as of five hours if he had taken this dose you would expect to see it up here. But, in fact, it was down here at one.

Q. I think we're saying the same thing, but let me see if I can narrow my question a bit.

This left-hand column indicates the dose.

A. Nanograms per mill blood plasma.

Q. And the bottom indicates the time.

A. Hours after dose.

Q. Irrespective of the dose taken, five hours after

ingestion the level in the body would be lower than within an hour or two of ingestion?

A. Correct.

Q. So that at the time Mr. Goode was in the hospital, the level of LSD in his body would have been higher than the tox screens measured later, right?

A. Right.

Q. Okay.

A. But they wouldn't have been as high as this curve.

Q. Understood.

A. Okay.

Q. The point is that the effect -- the level of LSD in his body would have been peaking about the time he's in the hospital emergency room and then after that the level is dissipating and going down to the level it is five hours later when the blood is drawn from the tox sticks?

A. Right. The maximum level is about one-and-a-half hours.

Q. Right. Okay. I think the other material that you brought would be your CV, and while we're in the marking mode, let's go ahead and do that. Exhibit Eight will be the CV. I think everybody has that.

(Whereupon, the document was marked as

Defendant's Exhibit Eight for Identification.)

BY MR. PHILLIPS:

Q. This CV is up to date and accurate?

A. Yes.

Q. Now, you had on the table earlier some medical literature. Here it is. With this binder clip you have provided for us that medical literature which you cited in the report from January 2016?

A. Right, with the exception of the chapter in Goodman Gilman, yes.

Q. We'll mark your medical literature that you brought as Exhibit Nine.

(Whereupon, the document was marked as Defendant's Exhibit Nine for Identification.)

BY MR. PHILLIPS:

Q. Is this the only medical literature that you referenced for your work in this case?

A. I believe that's everything I referenced in my report.

Q. Okay. And it's the only literature you plan to cite in your testimony in this case?

A. Yes.

Q. Now, you have a textbook, so explain for us how the textbook here, the Goodman and Gilman's, the "Pharmacological Basis of Therapeutics," 8th edition,

tell us how that plays a part here.

A. Okay. So Goodman and Gilman's "Pharmacological Basis of Therapeutics" is kind of the pharmacologist's Bible, so everything you want to know about almost every drug is in here.

So Joan Jaffe wrote chapters in the 7th and 8th edition, and what I'm citing is the chapter that Joan Jaffe wrote, chapter 22, on psychedelics, hallucinogens, psychotics and psychotogens, and this is a general description. Heightened awareness sensory input, often accompanied by an enhanced sense of clarity, but a diminished control over what's experienced, etc., and they have structures. LSD related compounds. History, chemistry, mechanism of action.

Q. Would you give us the pages from that text that --

A. Yes.

Q. -- that is on point? That are on point, I should say.

A. Page 553 through 557.

Q. In the material that you've provided, which we've marked as Exhibit Nine, third from the bottom is a reference to Goodman and Gilman.

A. Right.

Q. And the difference between what you've cited in

Exhibit Nine and the textbook, which is also Goodman and Gilman, which you hold in your hand, is what?

A. That was the earlier edition, the 7th edition from 1985. This is the more recent, the 8th edition, and I had discarded the 7th edition. That's a reference I had cited as a general reference, and so I have the 8th edition. It's written by the same author, and basically the content is the same.

I can't verify that it's word for word exactly the same, but basically this would be the description that a -- if a pharmacologist were looking for a general description of hallucinogens and pick this up, this is what they would read about hallucinogens.

Q. I want to mark those pages from the 8th edition of Goodman and Gilman pages 553 through 557 as Exhibit Ten, and we can substitute a copy from the text.

Let's just be sure we copy the cover page, including the Library of Congress information when we make that copy.

(Whereupon, the document was marked as Defendant's Exhibit Ten for Identification.)

THE WITNESS: Yeah, I apologize. I don't have a copy machine really at home, so --

BY MR. PHILLIPS:

Q. Are all of the sources cited in Exhibit Nine

reliable authorities in your opinion?

A. They're all peer-reviewed journals or book chapters.

Q. Are they all reliable authorities in your opinion?

A. Yes, in my opinion.

Q. And the material that you have written or participated in pertaining to LSD and other drugs, are all of those reliable authorities as well?

A. I certainly hope so.

Q. You think they are?

A. I think they are. Most people think they are.

Q. Have we now identified, Doctor, everything that you brought in response to the deposition notice?

A. I believe so, other than the report of Mr. Farr.

Q. Dr. Farr?

A. Dr. Farr at PharmD.

Q. That's right.

A. Mr. Farr. I'm a pharmacy school. We didn't really go for the PharmD stuff very much.

Then there was another report and it was 90-some pages. It was a long CV. I didn't copy that because I thought you probably had it.

Q. Do you know whose report that was?

A. Let me see if I can tell you.

MR. MCCORMACK: Is that Dr. Davis or Jones? Does one of those ring a bell?

THE WITNESS: It's not ringing a bell. I just scanned through it.

MR. MCCORMACK: I don't have a copy of those with me.

BY MR. PHILLIPS:

Q. Was the other report also the report of another defense expert?

A. I believe so, yes.

Q. As opposed to another plaintiff expert?

A. Yes. Yeah.

Q. And you say you just kind of scanned through it?

A. I did.

Q. You didn't carefully read it or consider it?

A. No, I can't tell you that I did. I looked -- I scanned through it and it was a lot of -- his CV was at the end, and so I just didn't copy it all.

Q. Have you ever advertised your services as an expert witness?

A. No.

Q. Have you ever been affiliated with any expert referral service?

A. Not to my knowledge.

Q. All right. I think we're at a good point to take

a break and see what we can do about copying these new materials and providing them to other counsel. So we'll go off the record and see what we can do.

(Short recess taken.)

BY MR. PHILLIPS:

Q. Plaintiff filed expert disclosures in the United States District Court for the Western District of Tennessee, and those disclosures included listing you as one of six experts. There is a section of that called factual predicate.

Are you familiar with that document, the factual predicate that was set forth before the various experts were listed?

A. No, I don't remember what that is.

Q. Have you read and considered that document, the factual predicate that was part of the disclosure that included you?

A. I don't know if I've ever seen that.

Q. The factual predicate says that after ingesting the LSD, Mr. Goode became paranoid and claustrophobic.

Do you agree with that statement?

A. That's in the record, yes. We talked about that earlier, yes.

Q. And that's related to LSD?

A. Most likely, yeah.

Q. And then it says that after Mr. Goode was put in the automobile, he could not stand the confines of the automobile. Do you accept that as true?

A. They stated he was claustrophobic, so that would be --

Q. Is that consistent -- that, as we discussed, is related to LSD ingestion in your opinion?

A. Probably.

Q. It says further that his actions appeared erratic and without purpose and he was running in circles. Do you accept those facts as true?

A. I would accept that as true, yes.

Q. And related to the LSD?

A. Yes.

Q. Can LSD indirectly cause death?

A. Well, people can commit suicide. They can do dangerous things like rock climbing, trying to swim, things that normally would be safe, but because of this disorientation they can injure or kill themselves. So that would be an indirect cause of death.

Q. So one way that one might talk about death is whether a level of the drug was high enough that it's effectively an overdose that resulted in death?

A. That would be a direct death.

Q. Right. But even if there's not a direct link to

a drug and death such as we just described, there still can be an indirect link, can't there?

A. Indirect death, yes.

Q. And a drug like LSD could make someone engage in behavior that leads or contributes to his death, right?

A. That's true.

Q. Had you personally done research regarding LSD?

A. Yes, scientific research in animals in biochemical preparations, yes.

Q. None of that testing would be on humans, would it?

A. No.

Q. It would be rats --

A. Biochemical preparations, yeah.

Q. How do you get the LSD used for research and testing since it's illegal?

A. We synthesize it. I have a Schedule 1 license.

Q. So you make it?

A. Yes, we do.

Q. And you have permission, so to speak, to do that?

A. I have a Schedule 1 license, yes.

Q. And there are obviously safeguards on that so that you can't use it, you can't give it to anybody else, it's strictly used for testing purposes in the laboratory?

A. They -- yeah, those were the studies we had approved, yes. I did -- I wasn't an M.D., we didn't have a clinical operation, so it all had to be that kind of work. And we had protocols approved by the DEA.

Q. Do you have any -- outside of your research, do you have any personal experience with LSD?

A. Over the years I've spoken with lots of people who have taken LSD because they recognize that I had expertise and published a lot, so I've had conversations over the last 30 years with people who have taken it, heard a lot of first-hand accounts, that sort of thing.

Q. Have you ever observed people after they've taken LSD?

A. I can't recall that I have.

Q. You've never used it yourself, have you?

A. Well, I was a student in the '60s.

Q. So you have?

A. Like most people who went to college in the '60s, I have some minor experience.

Q. But not since then?

A. No.

Q. Can the effects of a bad trip persist for days after the ingestion has taken place?

A. I would say in a really severe bad trip there could be persisting effects.

Q. And can there be persisting effects that are permanent?

A. Generally in persons who are emotionally predisposed, it can catalyze the onset of long-lasting psychiatric disorders. The consensus is that for people who are emotionally healthy, that doesn't happen. It doesn't actually cause psychosis, but for patients who have -- are predisposed, it can catalyze the onset of a long-term psychosis.

Q. Would it be more likely in a patient or person who has had several bad trips to have lasting effects, lasting psychiatric effects?

A. That -- that would just be speculation. It would be hard to say. There are people that have -- I have talked to people that have had bad trips and then they've taken it again and everything was fine, so it wouldn't necessarily be an indicator that things would go bad in the future.

Q. Let me show you page -- see if you recognize this. It's entitled Psychedelics. I think it's something that you authored.

A. Oh, yeah, mm-hmm.

Q. Is that a book, or is it a chapter within a book?

A. This is a journal, "Pharmacological Reviews." Basically it has -- it's about yeah thick and it has

maybe two or three review articles in it. So it would be comparable to like a book chapter.

Q. And it's in the -- what journal?

A. "Pharmacological Reviews." And that's peer -- that's peer reviewed.

Q. And you consider this to be a reliable authority?

A. I do.

Q. You made the statement in part on page 273 that LSD and other psychedelics can lead to serious psychologic consequences. Is that a true statement?

A. Yes.

Q. On page 275 you state in part that the judgment of users is impaired while under the influence of these drugs, including LSD, correct?

A. That's true.

Q. This is a particular concern when the hallucinogens are used in unsupervised settings.

A. True.

Q. Troy Goode's use of LSD was in an unsupervised setting, true?

A. Yes.

Q. You continue on page 275, users may believe that they are invincible or possess super powers and may do things that they would not normally consider. Is that true?

A. True.

Q. You quoted another source on page 279 that says, LSD is a powerful, non-specific amplifier of the unconscious.

A. Right.

Q. Is that a statement with which you agree?

A. Yes.

Q. What does that mean, it's a non-specific amplifier of the unconscious?

A. That probably -- that's a statement that Stan Groff made who had supervised 2,000 LSD's -- clinical LSD sessions and in trying to determine what these drugs actually do, it's still controversial how they work.

What happens when people take LSD is like things that normally are not in the -- in conscious processes or unconscious dreams, fears, wishes, etc., are brought to the surface so that they become conscious. So LSD amplifies those unconscious feelings, thoughts, etc., brings them into consciousness, so things that you normally wouldn't be aware of.

Q. You continue on page 279, and I'm quoting, I think Barr from 1972, the phenomenon induced by LSD cannot be predicted or understood in purely pharmacological terms. Is that true?

A. True.

Q. The personality of the drug-taker plays an enormous and critical role in determining how much effect there will be and what particular type. Is that true?

A. True.

Q. On page 79 you also -- page 279, I should say, you also state, once you keep in mind that the effects of psychedelics are highly variable and not necessarily dose dependent. Is that a true statement?

A. True.

Q. LSD can have a major impact on an individual even if the dose is considered to be a low dose, right?

A. Yeah, individual susceptibility and role playing.

Q. You were previously affiliated with Purdue University; is that right?

A. Yes, I was.

Q. It looks like from your materials you left there in 2012?

A. 2010, 2012.

Q. Why did you leave Purdue?

A. I had been there for 38 years and I got tired of writing grants and being on committees and just the paperwork. I was on the institutional review board, the animal care committee, all kinds of committees in the department, and it just wasn't that much fun anymore.

So I just decided to bail out.

That was also coupled with a really nasty divorce that had occurred a couple years earlier that sort of took the wind out of my sails.

Q. You weren't asked to leave Purdue?

A. No, no. In fact, they had people -- they had people come in who wanted to work for me after I retired that didn't know I was gone.

Q. Was it your departure from Purdue that resulted in your retirement?

A. Yes.

Q. I noticed that your report, which was January of 2016, is actually on Purdue University letterhead.

A. Yes.

Q. Did you have any affiliation with Purdue in January of 2016?

A. I was emeritus professor.

Q. Were you at UNC in 2016?

A. Yes.

Q. Why would your report not be on UNC letterhead instead of Purdue letterhead if you were working at UNC?

A. Because at Purdue I was a distinguished professor and also a named professor in pharmacology and an adjunct professor, and at UNC I'm just an adjunct professor.

So in terms of my reputation it seemed more propitious to use the credentials that I had at Purdue.

Q. At the University of North Carolina are you employed full-time or do you work part-time?

A. I voluntarily work, but I have a laboratory and I do chemistry and pharmacology that benefits the group that I'm in. I synthesize things that are either too expensive for them to buy or that are not available, and I'm generally a chemistry consultant. That's a pharmacology group. They don't know much chemistry, so I participate and I help some of the graduate students understand the results.

Q. When you say you're a volunteer, does that mean you're not paid --

A. Right.

Q. -- through the university?

A. Right.

Q. So other than your volunteer work at the university, is there anything you do that's sponsored or sanctioned by the University of North Carolina?

A. No.

Q. You don't do any research for the University of North Carolina?

A. What research I do is for the group I'm in.

Q. Okay. And what group is that?

A. It's Bryan Roth's group.
Q. Bryan Roth?
A. Bryan L. Roth.
Q. What does that group do?
A. He's a pharmacologist that looks at the pharmacology of what are called G-protein coupled receptors. They publish crystal structures of drugs bound in receptors. They study the signaling properties of drugs.

He actually invited me to go to his -- I was at a meeting the summer before I retired. I said I was going to retire. He basically said, how can you do that? You're the top guy in your field. I said, I'm just getting tired of what I told you of all the grants and da, da, da, da. He said, why don't you come and do an indefinite sabbatical in my laboratory, which I never thought about it?

I was just going to retire. I said, what does that mean? He said, well, I'll give you some lab space and hood and buy whatever chemicals you want. Just come in and work. I said, what are your expectations of me? He said, just have fun.

I had a big reputation, so for him it was like a coup for me to be in his lab to say, hey, yeah, Dave Nichols is working in my lab, and I did teach some

courses. Three springs I was there. I taught a pharmacy course. I wasn't paid for that, but I did do some teaching. Then they changed the curriculum, so I haven't taught.

Q. And this is a private group, the Bryan Roth Group?

A. It's a university laboratory. I mean, he's -- he's the University of North Carolina, Chapel Hill. He has a big pharmacology lab with 20 or 22 scientists.

Q. Is there a particular reason that you didn't try to get on the faculty of UNC?

A. You know, Bryan -- when I started working, he said, you know, if you want to write a grant, you could get a technician to work for you, and I said, Bryan, I retired so I didn't have to write grants anymore. I probably could if I was welcomed by the faculty there. I didn't have any trouble there. I taught some courses in the spring.

I don't know what their salary structure is, but academically if I said, I want to get paid, they would have worked something out and I would have had to take on additional responsibilities and I was, as my wife says, semi-retired. But I was retired and I did not want to jack up my effort again.

Q. When you were at Purdue before you retired, how

would you spend your time? You mentioned writing grants and other stuff. Just give us some general idea of how your time would be allocated.

A. So I had an active research group that was as large as 14 to 16 students at one point in time. Then I scaled it back. So I would direct their research. We would have weekly research meetings. They would talk. I would attend seminars once or twice a week, writing grants to get support for my research group. That took time.

Writing publications. That would take time as well. Working with the students who write publications. Giving seminars at other institutions. I think that could cover the general things I did. It was more than a 40-hour week.

Q. If you were picking and were to describe your profession, would you call yourself a pharmacologist? A toxicologist? What would you say?

A. Well, I was a distinguished professor of medicinal chemistry and molecular pharmacology, but I also was a Robert C. and Charlie P. Anderson chair of pharmacology.

So I really was a pharmacologist and a chemist and my consulting work in the drug industry and patent infringements has only been possible because I knew both

pharmacology and chemistry. I could relate a structure to pharmacology, whereas a chemist wouldn't understand the pharmacology and the pharmacologist wouldn't understand the chemistry. I could stitch those both together. So there weren't many people like me.

Q. Did you have any clinical work at Purdue?

A. No, I taught in the medical curriculum. I taught antipsychotics, antidepressants, and angiolithics in the second year of medical curriculum, but I didn't do any clinical work.

Q. You didn't have any direct patient contact --

A. No.

Q. -- nor did you consult with physicians about patient care?

A. No.

Q. And you have not done that at North Carolina either?

A. No.

Q. You wouldn't normally, in Indiana or North Carolina, complete a death certificate, would you?

A. No.

Q. You've never completed a death certificate, have you?

A. No.

Q. You're not the one who determines the cause of

death in any official capacity for any individual; is that right?

A. That's right.

Q. Outside of death certificates, sometimes there are documents created in hospitals called discharge summaries where a cause of death is listed.

You're not involved in formulating or drafting those documents either, are you?

A. No.

Q. You cannot make a medical diagnosis, can you, since you're not a medical doctor?

A. That's correct.

Q. Would it be correct to say that Troy Goode had LSD intoxication?

A. Yes, I think that's a fair statement.

Q. Would it be correct to say that he was under the influence of LSD and marijuana?

A. I think the forensic lab test would support that, yes.

Q. Let's talk a little bit about your expert witness work. Have you been involved as an expert witness in a case where you were giving opinions about LSD other than this case?

A. Yes.

Q. How many times?

A. Once.
Q. Did you give any testimony in that case?
A. Yes.
Q. By deposition, at trial, or both?
A. At trial.
Q. Where was the trial?
A. New Jersey. State court.
Q. I seem to remember some reference to a New Jersey case in some of the materials you provided.
A. Yes, that was the State of New Jersey vs. Campbell.
Q. Criminal case?
A. Yes.
Q. And do you have a copy of the transcript of any of your testimony?
A. I don't believe I do.
Q. Are you able to obtain that?
A. I probably could.
Q. Is that something you could check to see if you're able to do and let Mr. McCormack know if you're able to --
A. Yeah, sure.
Q. -- get a copy so it would be public information if it's in the court?
A. Sure.

Q. And I would request that we be provided a copy of that if you're able to locate it.

And that is the one and only time you've served as an expert in a court case involving LSD?

A. Yes, I believe so.

Q. Were you retained by the State or by the defendant?

A. The defendant.

Q. And what was the gist of your opinion in that case?

A. The defendant and his co-defendant were arrested for possession and possible distribution of LSD. How they came to be arrested is kind of controversial, but anyway, they found a bottle of eye drops, CVS eye drops that had 1.8 milliliters and that was analyzed qualitatively and found to contain LSD.

So in the -- I don't know whether it was a grand -- maybe it was a grand jury, but they had an expert from the State DEA who came in and was really not knowledgeable at all about LSD and said, oh, that's thousands of doses. 1.8 grams is thousands of doses.

They also had blotter sheets in the car. I don't remember. There were quite a few. Thousands of potential doses. He said, well, this is obvious that they were going to distribute this LSD in these blotter

sheets.

And I said to defense counsel, I said, well, they detected the presence of LSD, but what was the quantitative analysis? How much was actually in there? So they requested a re-analysis for actual percentage LSD. And some of the solution had mysteriously disappeared in the lab, which was never cleared up, but based on their calculations of analysis, the original 1.8 milliliters had contained 34 doses of LSD, 3.4 milligrams.

I said, well, obviously they weren't going to distribute LSD on these blotters if they only had 34 doses. So I testified as to the fact that this expert was incorrect. He called it liquid LSD and that it was thousands of doses, and I said there's no such thing as liquid LSD. LSD is a solid crystal material that's dissolved in the solution. It was the solution that contained 34 doses.

Furthermore, the blotters are not proof that they were claiming to distribute because a blotter is a collectible. You see it all the time in people that collect these pictures. They're cut up like sheets of blotter for LSD, but they're just pictures and they're art and people sign and pay money for them.

So I said, so that's not proof. So I said they

did not have an amount that was compatible with distribution of LSD. 34 doses. You don't make any money with 34 doses.

The judge ultimately ruled that, well -- and the defense attorney said, well, so we have a bottle of 1.8 milliliters and it actually only contains 34 doses, but you're going to claim that it has thousands of doses. So if we dissolve that in a 50 gallon drum of water, do we have 50 gallons of LSD? Or if we dissolve that in the ocean, do we have an ocean full of LSD? That was kind of the argument that he was providing.

The judge was not really very perceptive. She eventually ruled and said, well, all they had to do was dilute it in more water and have as many doses as they wanted.

I said -- I wrote -- I saw that and I wrote to the attorney, I said, that's stupid. A dose is defined as an amount that has a physiological effect. You dilute it to an infinite dilution, it doesn't -- it's not a dose. They're not doses anymore.

I don't know how it was settled. I don't think he went to prison, but things got taken down a bit because -- but that was the gist of the testimony, how much he actually had, what the actual doses of the LSD was, that they couldn't have been involved in a

conspiracy to distribute because they didn't have sufficient material to do that.

Q. Did the court permit your testimony or was there any issue about whether your testimony should be excluded?

A. No, they allowed it.

Q. Did a jury actually decide the case?

A. No, it was a judge trial. A bench trial.

Q. Was the defendant convicted of some LSD-related offense?

A. I believe he was.

Q. Do you know what it was?

A. No, but I can find all that out.

Q. Did it pertain to manufacturing LSD or just distributing LSD?

A. It would have been possession or distribution, not manufacturing.

Q. Before this case did you know Mr. Kevin McCormack or Mr. Tim Edwards?

A. No.

Q. Do you know how they located you?

A. I'm not completely sure, but a writer from the Huffington Post contacted me after Mr. Goode died and said, you know, there's some controversy over why he died and here's some information and what do you think?

I said, based on what you told me, he didn't die of LSD toxicity. And that story, I believe, was published, and I wouldn't swear to it, but I believe that's -- the attorney saw that story and then contacted me.

Q. Do you know the name of the reporter from the Huffington Post who first contacted you?

A. Not offhand, but I can get it.

Q. So your first contact about Troy Goode came from a Huffington Post reporter?

A. Right.

Q. Who provided certain information to you about the matter; is that right?

A. Correct.

Q. What information was provided?

A. I'd have to go back and look at his e-mail, but I think it concerned the amount of LSD he had in his body and the fact that they said he had died of LSD toxicity.

Q. Do you still have those e-mails from the Huffington Post report about Troy Goode?

A. Probably.

Q. And do you have a copy of the article that was ultimately written?

A. I don't believe I ever got a copy of that.

Q. I want to mark a copy of your e-mails with the

Huffington Post reporter pertaining to Troy Goode as late filed Exhibit 11. If you can provide those e-mails to Mr. McCormack --

A. Sure.

Q. -- and he can get them to the court reporter. You can do that?

A. Mm-hmm.

Q. Yes?

A. Yes. Yes.

Q. Thank you.

(Whereupon, the document was marked as Defendant's Exhibit 11 for Identification.)

BY MR. PHILLIPS:

Q. And based upon your conversations or communications with the Huffington Post reporter, you were able to reach the conclusion about LSD in Troy Goode's death, right?

A. I basically said that LSD doesn't kill people. So this was not correct that he died of LSD toxicity.

Q. So you really were able to reach the conclusion about which you've been disclosed to testify based upon communications with a Huffington Post reporter?

A. Based upon what he told me.

Q. Right.

A. Yes.

Q. Is LSD toxicity another way of saying overdose or too much LSD in the system that would result in death?

A. People generally don't overdose, even at very high doses. So LSD toxicity would imply there was some -- LSD had caused death through some physiological mechanism. That is not known to occur at anywhere near doses.

Q. Do you understand that term to be talking about a direct cause from LSD as opposed to an indirect cause?

A. That was my impression; that they were claiming he died of LSD toxicity.

Q. A direct cause?

A. Yes.

Q. And so you're disagreeing with that position based upon your interpretation that it means his LSD was listed as a direct cause of death --

A. Yes.

Q. -- as opposed to an indirect cause?

A. Yes.

Q. Other than the communications with the Huffington Post reporter about Mr. Goode, have you had communications with anyone else?

A. With respect to this case?

Q. Or Mr. Goode in general.

A. No, just the communications I've had with the

attorneys.

Q. Mr. McCormack or Mr. Edwards?

A. Yes.

Q. Have you consulted any other professional, some colleague, some medical doctor, anybody about this case or your opinions in the case?

A. No, not as a consultation. I mentioned to a colleague of mine who is a physician that I was retained to work on a case where they had claimed that someone had died of LSD toxicity. His reply was, that's outrageous.

Q. You've not relied upon any information from any other colleague or physician as a basis for any opinion you told in the case, have you?

A. No.

Q. Have you done all of the research relative to your opinions in the case, or somebody aided you during that?

A. No, I've done all the research.

Q. Has Mr. McCormack or Mr. Edwards or their office provided any information about LSD to you?

A. Not -- no, not specifically. Just these reports that you have.

Q. That we marked as an exhibit?

A. Yeah. No.

Q. Let's expand our discussion about your expert work and I'll ask you a narrow question about whether you've had other LSD cases. We've talked about that.

Have you done other expert witness work pertaining to any subject matter?

A. Outside of patent infringement?

Q. I'm trying to be broad. If you've worked as an expert in any capacity in any kind of case. That's what I'm asking you.

A. Yes, I've been -- I've been an expert in patent infringement cases, defending a major PhRMA, big PhRMA.

Q. What pharmaceutical companies have you worked for?

A. Merck, Bristol-Myers Squibb, Eli Lilly. There are several others. I've done about a dozen cases over the last decade.

Q. Always testifying for the drug manufacturer --

A. Yes.

Q. -- about prescription medications that they had developed?

A. Yes.

Q. Other than patent work, any other kind of expert work?

A. You know, not recently. I mean, I did -- I did do a case in Atlanta, which was an animal case and I

testified for the defense there.

Q. What was the gist of your opinion in that case?

A. It was a young fellow who was working in his father's food supplement store and was selling the substance called 1,4-butanediol and he had weightlifters taking it to build muscle mass. I didn't know it could do that. It turns out you can also use it to make GHB as a starting material.

He wasn't aware of that, and so he had been buying it from a supplier in Miami, Florida. The DEA had got the supplier in Miami, who was sending out GHB all over the country to different people.

They got him to roll over and all the people he was supplying things to and brought him into a conspiracy charge. This fellow had no clue what this stuff was used for. It's not actually -- it's now controlled, but it wasn't then.

He even had a policeman who was one of his customers. So they were charging him as part of this conspiracy.

So the public defender brought me down. Karl Leets, and another professor, I think Ernest Dileo [phonetic], from the University of Georgia, to testify with respect to whether butanediol was an analogue of GHB.

We testified that it was not an analogue, and that resulted in a hung jury. It was ten to two for acquittal, and he -- after he debriefed the jury, they found that the two that wanted to convict said, well, you know, where there's smoke, there's fire, they wouldn't charge this guy if there wasn't something to it and they bring in these professors to try and confuse us so we won't believe it.

So it was settled for a misdemeanor, mislabeling charge against the guy.

Q. So that obviously was a criminal matter --

A. Yes.

Q. -- where were you testifying --

A. Right.

Q. -- on behalf of someone accused of misusing drugs.

A. And distributing a drug, which they claim was an analogue, yes.

Q. Illegal distribution is the claim.

A. Yeah. It hadn't been -- it hadn't been determined that it was actually a controlled substance analogue, and so it wasn't strictly speaking illegal, but they were claiming it was an analogue.

Had they been able to say -- convince the jury that it was an analogue, then they would have charged

him with a controlled substance analogue.

Q. Have we covered the expert work that you've done previously, whether it just be case reviews or testimony?

A. I believe so.

Q. You've described research and other professional activities that you've done. Obviously you have interest other than LSD and psychedelics and how much of your focus has been on LSD and psychedelics as opposed to other kinds of drugs or substances?

A. I would say about half of my research program at Purdue was funded at the same level and for the same length of time to study drugs for treating schizophrenia and Parkinson's disease.

Early on I had 10 or 12 years of funding for studying MDMA ecstasy, and those analogues to understand their chemistry. So those were like the three areas that I really worked in. Anti-Parkinson's, anti-schizophrenia, dopamine agonist, and then the other side was the psychedelic hallucinogens.

Q. What is your charge for your expert work?

A. For drug industries I charge $500 an hour. For cases like this it's $350 an hour.

Q. Why do you make a distinction?

A. Because pharmaceutical industries have billions

of dollars and I can get $500 an hour. In these cases usually -- I assume in a case like this that they don't have unlimited funds, and I don't usually do these kinds of cases unless I think there's been some kind of a miscarriage of justice.

Q. In this case you charged 350 an hour for what work?

A. All my research work, the time I spent on the computer looking up references, typing, writing, etc.

Q. How about for depositions?

A. The charge is the same.

Q. If you testify at trial, how will you charge for that time?

A. I think actually I may have said -- I may charge $500 an hour, plus travel costs for trial testimony. I consider that to be a little more stressful.

Q. You have been prepaid $1,050 for your deposition today, correct?

A. I haven't seen the check.

Q. You have not? Are you being serious?

A. Yeah. I think they said they were going to pay me for three hours, but I haven't gotten the check.

Q. Did you request to be paid $1,050 in advance of the deposition?

A. No.

Q. That was the information relayed to us. I think we sent a check. We'll need to look into that if you say you have not received it.

A. No, I haven't gotten a check.

Q. Okay.

A. Maybe the check's in the mail, as they say.

Q. Dr. Nichols, others have been waiting patiently to ask you questions, so at this point I'm going to yield to them, and when they finish, I may or may not have additional questions, but while others are asking questions, I can ponder whether I have any additional questions for you. I appreciate your time, sir.

MR. MILLER: I have no questions. This is Steve Miller. I have no questions for the Doctor.

CROSS-EXAMINATION

BY MR. UPCHURCH:

Q. Doctor, this is David Upchurch. I am participating via teleconference.

Can you hear me okay?

A. I can hear you fine.

Q. All right, sir. I just have a few questions in follow-up to those that have been posed to you by Mr. Phillips.

Do you have any understanding as to how Mr. Troy Goode ingested the LSD in this case on July 18, 2015?

A. I believe I saw that he had taken some drops of LSD solution, and I don't know whether he had taken blotters prior to that. I'm not really sure.

Q. Is the response that you just gave based upon the clinical summaries that were provided to you that have been marked as an exhibit to your testimony?

A. Let me -- just give me a minute to look at these.

Q. Certainly.

A. According to this one report it says the group subsequently took liquid LSD while gathered in a circle.

Q. All right, sir. But you don't know how that was ingested, if that was placed on blotter paper or not?

A. Well, if he took liquid LSD there would be no reason to put it on blotter paper.

Q. How does one take liquid LSD?

A. Just put it in a drink or drop it on your tongue.

Q. All right, sir. Do you have any understanding from any source as to how Mr. Goode obtained the LSD that he ingested on July 18, 2015?

A. No, I have no knowledge of that.

Q. Have you been provided the vial from which the LSD was obtained on July 18, 2015?

A. No, I have not and I haven't seen that.

Q. Throughout your testimony this morning you have used the term, quote, bad trip, close quote. And I

think we all understand what you mean by that. But for purposes of clarity, define what you mean when you use the term bad trip with respect to LSD usage.

A. Well, there would be -- it would be a constellation of potential symptoms that would include intense anxiety, sometimes leading to panic, sometimes paranoid thinking, agitation, confusion, hallucinations. That would sort of cover the waterfront.

Q. And it's your opinion based upon the materials that you're -- that you have reviewed and your knowledge about this case that Mr. Goode experienced such a, quote, bad trip, unquote, on July 18, 2015 from the LSD that he ingested?

A. That's what the description sounded like to me, yes.

Q. Is there an expected time period, Doctor, after one ingests LSD that one would expect to begin experiencing the pharmacological effects of that illegal drug?

A. The onset of effects could vary depending on how much food they had in their stomach. Anywhere from 15 to 40 minutes would be typical.

Q. A similar question: Is there a time period following ingestion of LSD that one would expect to have the peak pharmacological effects of LSD?

A. Probably around three to four hours.

Q. Does that peak time period depend in any way on the method of ingestion?

A. That would be for oral administration. If LSD has been given by injection, that peak would be different. With an injection of LSD solution you'd see the peak much more quickly. You know, maybe within an hour or so, but for oral ingestion it would be -- three to four hours would be the maximum.

I guess LSD solution could also be given rectally or theoretically insufflated up the nose, and either of those would be a much faster onset and faster peak than if it was taken orally.

Q. But the peak is where, discussing it in this case and involving Mr. Goode, would be within that three to four hour time period?

A. Yeah, taken orally that's where you expect to see the peak of effects.

Q. Can one who has been a habitual user of LSD develop a tolerance to LSD such that an increased dose is required to produce the desired pharmacological effect?

A. So LSD has a very unique chronic pharmacology. It causes a very rapid tolerance that's called tachyphylaxis. If you take, say, 100 micrograms of LSD

on a Monday, on a Tuesday you would have to take, say, 200 or 300 micrograms to achieve the same effect. On a Wednesday you might have to take 600 or 700 micrograms to achieve the same effect. By Thursday, by four days, it would be almost impossible to have the effect.

So LSD cannot produce the kind of dependence you see with opioids or methamphetamines, heroin, etc. You build up a rapid tolerance. So it loses its effect. And you can take more, but if you do it every day, it just doesn't have any effect. That's what happens.

Q. Does that rapid tolerance build-up, does it have to involve sequential use, or does that statement hold true if one uses LSD in early January and then uses LSD in early February?

A. No, there wouldn't be any tolerance in that situation.

Q. All right, sir. If one has a bad trip from LSD, does that increase one's risk for a bad trip with LSD on subsequent usage?

A. Not necessarily. There are many people that have a bad trip and go back and just have a fine trip. It's kind of unpredictable, but it wouldn't necessarily predispose you to having a bad trip on subsequent occasions.

Q. I guess the converse is that -- of that is

likewise true, is it not, that simply because one has had a good trip, so to speak with LSD in the past, one cannot predict that one's next usage will result in that same good trip?

A. That's true.

Q. You told Mr. Phillips in discussing psychosis that could be related to LSD usage that there are people who are emotionally predisposed to having that psychosis develop.

Identify for us the predisposition that you were referring to, please, sir.

A. So if they've had any kind of a psychiatric illness, depression, anxiety, if they're bipolar, sometimes if they have first-degree relatives who are schizophrenic or who have bipolar disorder, they may have the genetics for that. It's generally difficult to determine, but it would be things like that.

Q. Based upon the bar graph or the graph that you discussed with Mr. Phillips referencing the level of LSD at the time it was drawn, do you have an opinion as to the amount of LSD that Mr. Goode likely ingested on July 18, 2015?

A. That curve was for ingestion of about 250 micrograms. At the five-hour time point Mr. Goode's level was about one nanogram on that left side. So you

could -- you could estimate that he had probably not taken more than about 100 micrograms. About one standard dose.

Q. Would you pull out, please, sir, the report of Dr. Farr that you had reviewed?

A. I don't have that with me.

Q. Has that been taken to be copied, or did you just not bring a copy of that report with you?

A. I failed to bring a copy of that report.

Q. All right, sir.

MR. UPCHURCH: Mr. Phillips, do you happen to have a copy of that report that we can allow the witness to see?

MR. PHILLIPS: I'm sorry, I don't. I did not bring it with me either in my travel periods.

MR. UPCHURCH: Thank you, Marty.

BY MR UPCHURCH:

Q. I have it in front of me, and just let me ask you a couple of questions about it. Understanding that you don't have it in front of you, I'll try to read the sentence that I'm asking you about to be fair to you, okay?

A. Sure.

Q. Dr. Farr writes that a moderate oral dose, 75 to 150 micrograms of LSD, will significantly alter state of

consciousness.

Do you agree or disagree with that statement?

A. I agree.

Q. He further writes, this alteration is characterized by a stimulation of affect, mostly experienced as euphoria, enhanced capacity for introspection and altered psychological functioning in the direction of Freudian primary processes known otherwise as hypnogenic experience and dreams often referred to as a trip.

Do you agree with that statement?

A. I would say it's generally correct.

Q. Is there anything in that sentence that I read to you, Doctor, that you take exception to or disagree with?

A. Well, his -- his comment about Freudian stuff, I'm not a Freudian psychoanalyst, so he's copied that out of a reference someplace, but I'm not sure what he means by that.

Q. Fair enough. You don't overtly disagree with it. Just based on your background, training, and experience you're not prepared to discuss it, true?

A. Yes. It's generally correct, but I would have to look at it a little more.

Q. All right, sir. He writes, especially noteworthy

are perceptual changes --

A. Yes?

MR. PHILLIPS: Mr. Upchurch, are you still there?

THE WITNESS: Are you still there?

MR. PHILLIPS: Anybody else on the line? Okay, we lost everybody.

(Short pause).

Discussion held off the record.)

MR. UPCHURCH: Doctor?

THE WITNESS: Yes. You're back.

MR. UPCHURCH: Yes, sir. For reasons that are unknown to me, those of us on the conference call, it appears that we were dropped from the call. We could hear each other, but not you.

So can you hear us okay now?

THE WITNESS: I can hear you fine.

MR. PHILLIPS: Do we also have Rick and Brad on the line, David?

MR. UPCHURCH: Brad is here. Rick?

MR. GASS: I'm here.

MR. PHILLIPS: Good. Let's resume.

BY MR. UPCHURCH:

Q. All right, sir. Doctor, I think I was asking you about Dr. Farr's statement where he says, especially noteworthy are perceptual changes such as illusions,

pseudo hallucinations, then there's this word, s-y-n-e-s-t-h-e-s-i-a-s-. What is that?

A. Synesthesias are mixing of senses. So people that take LSD, for example, if they go to a music concert and close their eyes, they'll see colorful kaleidoscopic patterns and things playing out to the music. So it's a mixing of the senses.

Q. All right. And he concludes by, and alterations of thinking and time experience.

You would agree with that statement, would you not?

A. Yes.

Q. Dr. Farr writes, changes of body image and ego function also often occur. Do you agree with that?

A. Yes.

Q. Dr. Farr writes, the acute physiological effects of LSD last between six and ten hours, depending on the dose taken. Do you agree with that assessment?

A. Yes.

Q. Dr. Farr writes, autonomic changes reflect a stimulation of both branches of the autonomic nervous system. Do you agree with that?

A. Weak -- weak affects on the sympathetic nervous system. I'm not sure about pair synthetic nervous system.

Q. Did you say weak as in terms of w-e-a-k effects?
A. Yes.
Q. Why did you describe those effects as weak?
A. You don't see dramatic changes in physiology. So activation of the sympathetic division of the autonomic nervous system will produce slight increases in heart rate, very slight increases in body temperature, slight increases in blood pressure, but they're not very -- not very great.
Q. Are you speaking in terms of the pharmacological effects of LSD itself and/or the activities which LSD can produce in terms of the paranoia, anxiety, and so forth?
A. I'm not sure I understand your question. If you could restate it.
Q. Yes, sir. When you're addressing the autonomic changes, are you speaking of the LSD itself or are you including in that the psychological effects of LSD such as hallucinations, delusions, anxiety, and psychosis?
A. No, those are the physiologic consequences. You previously quoted his text with respect to the psychological effects.
Q. Fair enough. I understand the distinction.
He writes, effects on the sympathetic branch of the autonomic nervous system is the predominant system

that leads to the release of catecholamines and dopamine. I think you testified earlier that some of the effects of LSD can lead to the fight or flight response that we have?

A. Yes. That would be in -- in the bad trips, so to speak.

Q. And so if one has a bad trip such as Mr. Goode had on July 18, 2015, then that can lead to the release of the catecholamines and the dopamine that Dr. Farr was describing?

A. Well, not dopamine per se. The catecholamines would be epinephrine and norepinephrine.

Q. Dr. Farr writes that LSD is known to cause hallucinatory effects that can lead to and/or relate to paranoia, panic attacks, and claustrophobia.

You've testified previously that you agree with that statement?

A. Yes, that would be a bad trip.

Q. Dr. Farr writes, these effects -- referring to the paranoia, panic attacks, claustrophobia are consistent with Mr. Goode's behavior, including exiting the car and resisting the restraints.

Again, you have told Mr. Phillips that Mr. Goode's behavior is erratic behavior, as has been described to you or related to you, is consistent with

his LSD usage and a bad trip, correct?

A. Correct.

Q. Dr. Farr writes, although death directly attributable to LSD toxicity is rare, indirectly it can and does cause death due to agitation, paranoia, hallucinations, and other complications attributable to LSD.

Do you agree with that statement?

A. Well, the indirect death would be due to carrying out dangerous activities. You know, the paranoia and anxiety and so forth would not -- that would not kill you, but if you engage in dangerous activities; rock climbing, swimming, walking down the highways, etc., because you were disoriented, that would be an indirect cause.

Q. Sir, I believe you referred to those indirect fatalities on page 2 of your January 11, 2016 report, do you not? About the third paragraph down, Doctor, on page 2.

A. Yeah, and so the paragraph that starts, although fatalities after LSD use can occur?

Q. Yes, sir.

A. Yes. So what is your question?

Q. Do you cite in your report to the cases in which LSD intoxication led to death?

A. Direct or indirect?

Q. Indirect.

A. I don't think I cite specific reports of users attempting to swim, rock climbing, trying to fly, etc. I don't have any citations for those.

Q. Do you recall from which publication or research you would have derived those statements there in that paragraph we're looking at?

A. Well, I talk about two documented cases where LSD presumably directly led to fatality, and that I do cite in my report those references.

Q. Yes, sir. Those are the Fysh and the Gable reports that you cite, but my question goes to the indirect.

Can you tell us by recollection or otherwise the source of the indirect deaths that you mention in the paragraph beginning, although fatalities?

A. I didn't -- I didn't research those, so I don't have a reference for that.

Q. Do you know from what source you would have derived that statement?

A. There would have been multiple sources. I can recall a report in a medical journal where an individual who had taken mescaline climbed up to the top of a cliff and did a swan dive off the cliff thinking he could fly.

That would be typical. You know, I could -- I could look for things like that, but those -- those reports are few and far between.

Q. Doctor, that's all the questions I have for you. Thank you, sir.

A. Sure.

CROSS-EXAMINATION

BY MR. DILLARD:

Q. Doctor, this is Brad Dillard. I'm one of the attorneys for the Southaven defendants in this case. I have just a few follow-up questions for you.

Can you hear me okay?

A. I hear you fine.

Q. Good. Thank you.

I think you testified earlier under questioning by Mr. Phillips that you do believe that Troy Goode was undergoing a bad trip on the day in question; is that correct?

A. That's correct.

Q. And did I understand your testimony earlier to be that a bad trip or an individual who is in the process of undergoing a bad trip may be uncooperative to other people?

A. That's certainly possible.

Q. Would it make someone -- do the effects of LSD

make someone undergoing a bad trip perhaps unwilling to follow the commands of law enforcement or medical providers or other similar individuals?

A. They might be unable to even understand the commands they were given. So, yes, they wouldn't --

Q. And if they were --

A. They wouldn't necessarily comply. They might not even understand what was going on, who was saying what.

Q. Okay. So they may not understand.

And if they did understand, they may be unwilling to comply due to the effects of the bad trip, would that be correct?

A. You know, I think they would be so disoriented in a bad trip. Unwilling to comply I think would be a mischaracterization. They might be unable to comply. It might not be within their capacity, being disoriented like that, to even understand what the situation was. So complying really would not have any relevance to their understanding at that moment.

Q. Are you rendering any opinion in this case that on the night in question Troy Goode was not able to understand the commands or instructions provided to him by law enforcement or medical personnel?

A. I think it's a reasonable assumption that he didn't understand.

Q. And what would the basis of that assumption be?

A. Well, having a bad trip, you would have paranoid ideations, paranoid thinking, disorientation, possibly hallucinations. You're not in a normal mode of consciousness, so being able to interpret what's happening, your whole sensory processing system is out of whack.

If he was having a paranoid delusion that someone was attacking him, for example, and the police tried to get him to comply, he might hallucinate that they were actually Nazi agents or somebody out to kill him. You can't really know, but I don't think it's reasonable to think that he would understand necessarily what they were telling him to do if he was having a bad trip.

Q. You just stated that a bad LSD trip can cause paranoia and psychosis; is that correct?

A. It could cause psychosis. Definitely paranoid thinking.

Q. Do you have any opinion as to whether or not Mr. Troy Goode was undergoing paranoia or developed any type of psychosis due to his LSD usage?

A. It's hard to know that. I mean, all you can say is that you look at his behavior and clearly he was not in his normal behavior. We'd have to question --

Q. In your experience --

A. Yeah, we'd have to question --
Q. Pardon?
A. We'd have to question to know what the actual nature of his experience was. It's impossible to know.
Q. In your experience may a bad trip from LSD usage make an individual less careful or less mindful of their own personal safety?
A. Yes, definitely.
Q. In the questioning between Mr. Phillips, Mr. Upchurch, and I, have you fully explained and disclosed to us all of the opinions that you hold in this case and which you may offer at trial?
A. I think so.
Q. And have you fully discussed with us the basis for all of your opinions?
A. I believe so.
Q. Thank you, sir. I'll tender the witness.
MR. GASS: Kevin, this is Rick. I have just one small question and I would make it more efficient if I could ask it even though rather than pass it through Marty. Do you have any problem with that?
MR. MCCORMACK: I prefer that it goes through Marty.
MR. GASS: Marty, would you then ask the witness whether he has described, quote, LSD as the closest to

a pyro technique molecule in the brain, end of quotes?

REDIRECT EXAMINATION

BY MR. PHILLIPS:

Q. Doctor, do I need to repeat that, or can you answer the question as if I posed it?

A. He's found something that I said once.

Q. Did you say that?

A. When I was a kid --

Q. First, did you say that? Did you make the statement that was just repeated?

A. It sounds like something I said. I'd have to see, but when I was a kid, like many kids interested in chemistry, I made pyrotechnics. So firecrackers and little flash pots and things like that. So someone asked me in some relationship to what I did as a kid and I said, I guess what I'm working on now are pyro techniques for the brain. So that was probably the context of where he got that.

Q. Okay.

MR. PHILLIPS: I have an additional question. Do you want to ask yours before I ask mine?

MR. MCCORMICK: You can go ahead.

BY MR. PHILLIPS:

Q. You were asked about whether you have the vial from which the LSD that Mr. Goode ingested came from

and, of course, you do not, and that means that the LSD that he took has not been and cannot be tested in any way for purity, right?

A. Yeah, if the vial is missing and they don't have it, that's true.

Q. Sometimes LSD can be contaminated with other things that can be harmful to people, can't it?

A. In -- yes, it could be.

Q. And there's no way to determine whether this were purely manufactured LSD or whether it had some other harmful agent in it without the ability to test the vial of the LSD itself; is that right?

A. Yes, but the caveat to that is that the forensic lab tested his blood and they routinely screen for lots of different dangerous drugs, and if there had been something in there that was dangerous, I would think they would have found it in their screen.

Q. But there certainly are things that can be present that would not be detected in that tox screen, right?

A. I'm not sure what they would be.

Q. But there could be some that would be undetected in a tox screen?

MR. MCCORMACK: Are you asking theoretically?

MR. PHILLIPS: Yeah.

THE WITNESS: Yeah, hypothetically, I mean, yeah, you could have botulinum toxin or something in there.

CROSS-EXAMINATION

BY MR. MCCORMACK:

Q. I'll follow up on that first. Dr. Nichols, as you know, I represent Kelli Goode, who is the widow of Troy Goode.

Based on the toxicological screenings that you were provided, are the common adulterants or common substances that would be passed off as LSD tested for?

A. The most common one that is passed off as LSD are compounds called endo compounds, and they have killed people, and the tox screen indicates that they did screen for those and didn't find any.

Q. Other drugs that would potentially mimic LSD -- were others drugs that would potentially mimic LSD also tested for?

A. From the list of -- their list of drugs that they tested for, it seems to me they tested for anything that would have been problematic other than LSD.

Q. So except for a strange hypothetical, would there be any common drug that you could think of that was not tested for?

A. No.

Q. I want to talk to you a little bit about your

experience. You studied LSD for a long time, haven't you?

A. Yes.

Q. Could you tell us how long you studied LSD?

A. Well, actually, when I was a graduate student I started working on what would be called mescaline. That was 1969. So my history in the field goes back to 1969.

Then I got an appointment at Purdue in 1974 and continued working on those drugs. We started working LSD, I couldn't tell you the exact year, but spent a lot of time working on mescaline before we started with LSD, but then we started working LSD because no one was working on it and I thought this was an area where we could make some progress and understand about the molecule.

So a total history of 38 years at Purdue, plus my time as a graduate student would put it in more than four decades.

Q. You mentioned that your work has been funded. Who has funded your research?

A. The National Institute on -- on Drug Abuse funded for most of my career.

Q. That's with the U.S. government?

A. Yes, indeed. Yeah. NIDA.

Q. In your 40 years of continuous study, have you

seen anyone else who's done that kind of extent of study funded by the U.S. government in the area of hallucinogens?

A. No.

Q. Is that nationwide?

A. That's internationally.

Q. So would it be fair to say you might be the longest-running researcher on LSD in the entire world?

A. Probably.

Q. I want to talk to you a little bit about the basics of LSD, just speaking in terms of its effect on the brain. I know there's serotonin and dopamine.

How does LSD affect those systems?

A. I'm not sure it would be a fairly simple --

Q. Well, let's -- let's do --

A. Okay. So the main neurons in the cortex, which is what makes, you know -- gives us our humanity, really, are called the cortical parameter cells. They're actually shaped like pyramids. And they run mostly layer five in the cortex, and these are the cells where all the information comes in.

All your sensory information and things you hear, sight, etc., they all get processed through a gate that's called a thalamus. It sort of decides what's relevant, and so that gets processed up to the cortex.

And these cortical granule cells are a part of the cell that leads into the cell by itself, it has receptors that are called serotonin 5-HT, 2A receptors, and they govern the sensitivity of the membranes of those cortical parameter cells.

So if you imagine that this is like a giant parallel processor and all these parameter cells are like central processing units, the activation of those receptors changes the way they process information. It increases their sensitivity.

So everything that you think and feel, etc., you can imagine it's magnified to a certain extent because these cells are -- they're assetized and they react much more easily to any kind of information.

Now, that's in the cortex. That's where you make your executive decisions. So we put together what we see and feel and everything.

But leading up to that, these same serotonin 2A receptors are located in lots of different areas of the brain. They affect serotonin cell bodies in the brain stem that generally produce serotonin throughout the whole body, through the whole brain. They're on what is called the locus coeruleus, which is called the search light of attention, or a nullity detector. So they amplify that. So things that normally don't seem novel

would seem novel under LSD. They do activate dopamine cell bodies in the brain stem which activates and send signals to the cortical cells. The locus coeruleus sends signals to those cortical cells. So you have all of these subcortical structures that determine what gets sent to the higher centers. They're all affected and sensitized.

So basically really it's like -- they say psychedelics are a mind expansion. Really, you've expanded the capacity of the mind. So people just are overflowing with information. Normally you have a damper on that. So we're sitting here in ICU and him and him and him, but under a psychedelic it expands. You know, I would see you and I would be thinking all kinds of thoughts that happened and other things. So it really is kind of literally mind expansion, which is what people say.

Globally what we know now from recent experiments is that normally your brain has different areas that sort of communicate within themselves, intra connectivity, and where they connect with other parts of the brain. But under LSD and other psychedelics, what happens is intra-opt connections break down and they all connect with other parts of the brain, so you have a dramatic increase in brain activity, which is related to

this sort of mind expansion, if you will.

Q. You mentioned that mostly speaking about the serotonin in the system. Let's compare that with a drug like cocaine. What's the difference between LSD and cocaine in terms of its effect on the brain?

A. Yeah, so the effects of LSD can be blocked by a drug that blocks the serotonin to an extent. So you can block the effects of LSD.

Cocaine or methamphetamine is very similar. Cocaine is -- it blocks the re-uptake of norepinephrine, serotonin, and dopamine. So after neuron releases the transmitters, they're taken back up into the transmitter through re-uptake pumps. So cocaine blocks those re-uptake pumps, so your synapsis get clogged with serotonin, dopamine, norepinephrine.

Methamphetamine is similar. It doesn't block the re-uptake. It's actually taken up itself and displaces the transmitter inside the neuron, which is then released. So you have increased synaptic levels of serotonin, dopamine, and norepinephrine.

With the psychostimulants like cocaine or methamphetamine, principally their effect is mediated by dopamine urgent action. So, in fact, all drugs that are addictive and use dependency, even heroin, activates dopamine in those areas of the brain where reward is --

is responsible for reward.

So fundamentally it's a different mechanism of action. It's intense dopamine release and activation of dopamine circuits versus the cortical, so it is principally through serotonin 2A receptors.

Q. You were asked a lot of questions about potential effects of a bad trip. Generally, is a bad trip fatal?

A. No, people don't die of bad trips.

Q. You were also asked about a distinction between direct versus indirect deaths.

Do you remember talking about that?

A. Yes.

Q. Is an indirect death from LSD -- can a person have an indirect death from LSD without a -- scratch that.

In your research is there any sign that a person would have an indirect death from LSD without some sort of external cause to that?

A. Well, if you call external cause like trying to rock climb or swim or drive a car, walking into an interstate or something like that, those would be indirect deaths, where the person was disoriented and there was some trauma.

Q. So a direct death, would that include not just an overdose, but side effects? Would that fit into your

definition of a direct death?

A. Well, direct death would be directly attributable to the effect of LSD on the body itself; its physiological system. LSD is a very safe drug in that respect. So there are no direct deaths other than massive overdoses.

Q. I guess the simplest way I can ask this question is, did Troy Goode die because of LSD? Did the LSD kill him?

A. No, I don't think the LSD killed him. I think -- well, his encounter with the police in his state, that's what led to his death. I think my opinion is if he hadn't encountered the police he wouldn't -- he would still be alive. The bad trip doesn't kill people. Lots of people have bad trips. Emergency rooms have seen them. They don't die on a bad trip.

Q. You were asked about things that were consistent with a bad trip. Would an oxygen saturation of 90 percent be consistent with a bad trip?

MR. PHILLIPS: Let me note an objection. Lack of foundation and qualification for this witness and also beyond the scope of the expert report disclosure.

MR. UPCHURCH: Join the objection on behalf of the hospital.

MR. DILLARD: This is Brad Dillard. I join on

behalf of Southaven.

MR. UPCHURCH: Kevin, can we have the agreement that an objection by one defendant is good as to all defendants?

MR. MCCORMACK: We can.

MR. UPCHURCH: Thank you.

THE WITNESS: Can you restate that question?

BY MR. MCCORMACK:

Q. Sure. Would an oxygen saturation of 90 percent be consistent with a bad trip? Would that be caused by a LSD bad trip?

MR. PHILLIPS: Same objection.

THE WITNESS: If the person were flailing around and heavily exercising and really stressed, I would expect you might see a decrease in oxygenation.

BY MR. MCCORMACK:

Q. Would someone being -- stating that they're unable to breathe be consistent with a bad trip?

MR. PHILLIPS: I'll lodge the same objection.

Do you want me to object to every question or will you agree I can have a continuing objection to this line of questioning?

MR. MCCORMACK: You can have a continuing on this line.

MR. PHILLIPS: Thank you.

BY MR. MCCORMACK:

Q. Would someone saying that they're having trouble breathing be consistent with a bad trip?

MR. MCCORMACK: Your objection is noted.

MR. PHILLIPS: Thank you.

THE WITNESS: If their bad trip involves somehow being compressed or wedged in a tight place or having force placed on them or whatever, yeah, you would -- if you are having a bad trip you could say I can't breathe.

BY MR. MCCORMACK:

Q. Assume that someone said that Troy Goode's eyes looked like they were bulging out of his head. Would that be an effect of LSD?

A. I haven't heard that one before.

Q. If a witness said that she looked at Troy and it looked like he couldn't breathe, would that be an effect of LSD?

A. Just someone having a bad trip?

Q. Yes.

A. He looked like he couldn't breathe? Well, in an anxiety attack, anxiety and panic attacks are often misdiagnosed as heart attacks. People think they're having a heart attack and can't breathe. Panic disorder. So that could be something you would have

with a bad trip.

Q. You said earlier that LSD wasn't safe for Mr. Goode. Can you explain what you meant by that?

A. Well, in the context of the question I was asked earlier, they said he had had two prior bad trips, and I think if you have -- you know, one bad trip doesn't necessarily mean that you're going to have more bad trips, but I think if you had two bad trips it would be very unwise to take a third dose. You know, that is not a wise decision.

Q. But you said the LSD wasn't safe for Mr. Goode.

Did you mean to imply that the LSD here could have caused his death directly?

A. No, he would have just had another bad trip.

Q. And as you said earlier, a bad trip isn't fatal.

A. No, bad trips don't kill people.

Q. You were asked some questions about literature you plan to cite in this case. Obviously you've written a lot of papers. Is that a fair statement?

A. Yes.

Q. If you're asked questions that you haven't been asked here today, is it possible there could be some literature you would have to cite to in support of your answers to those questions?

A. Yes.

Q. You were also asked if you have offered all of the opinions you plan to offer, if you've talked about all of those today. If you're asked questions other than the ones that you're asked here today, is it possible you would have an opinion on those questions?

A. Certainly it's possible I could have an opinion.

Q. Mr. Phillips asked you if LSD can cause delirium and I think your answer was it can.

A. It can, yes.

Q. Are you familiar with the hypothesis of excited delirium?

A. I have heard of that.

Q. Based on pharmacology of LSD, can LSD cause excited delirium?

MR. PHILLIPS: I still have my continuing objection. Lack of foundation, qualification, beyond the scope of the disclosure.

THE WITNESS: You know, it's -- it's a term that's been developed in forensic medicine to describe these people that -- especially with respect to cocaine.

You know, if you think about somebody having a bad trip, whatever that is, I suppose people could say a bad trip is excited delirium. I don't know. If you think about people having a bad trip and then being -- and a bad trip could involve paranoid thinking. LSD

is an illegal drug. People that have encounters with police while they're having a paranoid bad trip, it's magnified. Everything's magnified. So in the context of a bad trip with that kind of thinking, then having an encounter with authorities or being attacked by dogs or things like that, I think you would -- normal people would probably try to resist that.

If he's not aware of police instructions, if he can't comprehend those, I mean, I think calling it excited delirium, you know, I -- I don't know really what that means. It doesn't -- it doesn't fit the profile that you would see with cocaine and methamphetamine, which are more typically that type of problem.

BY MR. MCCORMACK:

Q. Okay. In your report you mention that LSD is a weak partial agonist of serotonin and dopamine. Is that a true statement?

A. Yes.

Q. Okay. How does cocaine affect dopamine?

A. Cocaine blocks the re-uptake of dopamine into the terminals that releases dopamine, which in -- so the synapsis of the dopamine go way up. Dopamine is a full agonist, of course, and so that activates all these circuits, these reward circuits and can produce

euphoria. Psychosis, schizophrenia, psychosis is thought to be an overactivation of WD2 receptors. So LSD -- the work that we did indicated that it activated dopamine before receptors, which are different than a D2 or D3 receptors that you would see with cocaine and psycho stimulant activation.

Q. Okay. I want to go a little further into that. Assume that the theory, this hypothesis of excited delirium relies on a lack of dopamine transporters in the brains of chronic drug users.

Based on all the research that you've done, do you see any reason that LSD would cause the changes in brain chemistry that cocaine does that would lead to that hypothesis of excited delirium?

MR. PHILLIPS: I have my continuing objection, right?

MR. MCCORMACK: You do.

MR. PHILLIPS: Okay. Thank you.

THE WITNESS: Yeah, there -- there's no basis to think that there would be an effect of LSD on those dopamine transporters. So that -- if that's the hypothetical mechanism, that wouldn't apply to LSD in my opinion.

BY MR. MCCORMACK:

Q. You mentioned in your report, unlike any other

controlled substances use of LSD does not produce cardiotoxic levels of catecholamines.

Is that a true statement?

A. Yes.

Q. Would cocaine cause cardiotoxic levels of catecholamines?

A. Yes, it could, and cocaine also blocks the re-uptake of norepinephrine and also as a local anesthetic effects that you can have. You can have cardiac arrest or from the direct effects of cocaine.

Q. Assuming for the sake of the hypothetical that excited delirium is caused by a cardiotoxic level of catecholamines accumulating in the body.

Is there any reason to believe that LSD could cause a similar effect?

A. Not by itself. In the context of a bad trip and being -- perceiving maybe that he was being attacked or whatever, you would have a fight or flight response because he could be perceiving that his life was in danger, and so then you would have ever -- you know, everything would be mobilized.

Your heart rate would go up, you try to breathe more, etc., to try to fight off the attack. So it's -- you know, without being in his mind, it's hard to know.

Q. Assuming that somebody's having a bad trip, is

there a proper way to help the person work through a bad trip?

A. The general recommendation with someone with a bad trip is to take them to an area where there's reduced sensory stimuli, reduced lighting, a quiet place and quiet reassurance. So in this case if he had friends that had been able to get him and talk to him or his wife, I don't know whether she could, but if they could talk to him, generally a talk-down like that would be an appropriate way for people that have bad trips that go to emergency departments, and there are some that are basically talked down, reassured, this is not threatening, you're not going to die, and often give them a benzodiazepine to calm them down or something like ketamine, which is an anesthetic which would calm them really quickly.

Q. If someone was having a bad trip, would -- something that would ordinarily be frightening to a person, would that be something that could cause the trip to get even worse? Cause the bad trip to continue?

A. Yeah, it could become terrifying.

Q. Would that include something like being attacked by a police dog?

A. Oh, yeah. I don't think somebody on LSD being attacked by a police dog being really -- that would be a

bad trip.

Q. How about being Tazed?

A. Yeah, these are all -- you know, if you -- if you -- if you had paranoid thinking and you believe you were being attacked, the police show up and a dog sics you and they Taze you and hogtie you, whatever, I mean, you might believe that your life is in danger. You would fight very hard to protect yourself.

Q. Mr. Phillips asked you a few questions about your qualifications and we figured you're not an M.D., correct?

A. Correct.

Q. Have you ever worked with M.D.s in a professional capacity?

A. Other than just e-mails and going to meetings and things, I have acquaintances who are physicians.

Q. As a professor, did you ever teach M.D.s?

A. Yeah, I taught in the medical curriculum. Indiana University has a regional medical school. So they have two-year didactic work before they go to the medical center at Indianapolis. So I taught in the medical curriculum for about ten years.

It was antipsychotics, psychostimulants, and angiolithics.

Q. So would you have been the one teaching M.D.s

about the effects of LSD?

A. If -- yeah, if that was part of the curriculum, I would have been the one teaching it.

Q. You were asked a little bit about your article on psychedelics and you were asked some quotes and asked if they were accurate. I want to do the same thing here.

You state that Jaffe in 1985 stated, in man deaths attributable to direct effects of LSD are unknown and this statement remains true even today.

A. That's true.

Q. Is that true even still today?

A. Yes.

Q. You also mentioned that some people have potentially fatal reactions to psychedelics.

Would that be something of the indirect deaths that you talked about?

A. Yeah, that would be an indirect death.

Q. You mention in here that it should be emphasized that these latter fatalities, which are rare, have occurred after the use of newer synthetic compounds and not as a result of the ingestion of LSD, mescaline and DMT.

Is that also true?

A. Yes.

Q. Is it fair to say that medical research -- that

based on the medical research, the amount of LSD that Troy Goode took is not lethal?

A. In my experience that would not be a lethal level.

Q. Do you have any doubt on that conclusion?

A. No.

Q. You mentioned briefly that the potency of LSD has changed over time. Could you explain to us how has the potency of LSD changed since the '60s?

A. In the '60s, the mid '60s, the LSD that was available then was very potent. For example, there was one that was called Orange Sunshine, which is certainly legendary, and it had about -- around 300 micrograms of LSD.

After that period of time the amount of LSD and the doses started dropping. I heard speculation that the dealers and distributors, because at 300 micrograms is such a big dose and people were having bad trips, so many bad trips, that they lowered the dose because they were getting bad press, and I have no idea whether that's true or not but the dose did lower, and today more typically a dose might be 60 to 70 micrograms. So it's a lower dose down than it was in the past.

Q. You mentioned earlier that not having the vial we can't know exactly how much LSD Troy Goode took. Is

that an accurate statement?

A. Well, even if you had the vial, you don't know how much he actually took, even if you had a concentration of LSD in there. So you wouldn't know how much of a liquid he actually ingested. So you wouldn't know. The only thing you have to go on is his plasma levels.

Q. Based on those plasma levels, are you able to reach a conclusion as to how much LSD Troy Goode took?

A. Less than 200 micrograms.

Q. And put that in context. How many hits or doses would that be?

A. Depending on, you know, how many doses he took, if we say an average dose is, say, 60 or 70 micrograms, maybe three of the -- you know, it's just a guess.

Q. In order for this to be a toxic overdose of LSD, approximately how many hits would Troy Goode have had to have taken?

A. No one knows the actual lethal dose of LSD, but it would be on the order of hundreds of doses, probably.

Q. You just said that nobody knows the lethal dose.

A. They're estimated between 14 milligrams and 100 milligrams, and so we don't really know. So 14 milligrams is, you know, 140 doses, and a tenth of a milligram. Then 100 milligrams would be, you know,

1,000 doses. So they're just estimates because you can't do them on some people. You'd kill them.

Q. Is it fair to say that Troy Goode took substantially less than the amount of LSD that would have been required for a lethal overdose?

A. Oh, yeah. Yeah. From based on his plasma levels, he was way under anything like that.

Q. And is it fair to say that conclusion holds true both for a straight overdose and for complications of LSD toxicity?

A. Well, there are -- I don't know what complications of LSD toxicity would be. You don't have physiological toxic effects until you get to hundreds of doses of LSD.

Q. You mentioned that LSD does have some impact on the dopamine system, a secondary effect, I think you said, on D4 receptors.

A. Right.

Q. If a person was given an antipsychotic drug such as haloperidol, what effect would that have on the dopamine systems and the person having the effects of LSD?

MR. PHILLIPS: I continue my objection.

MR. UPCHURCH: Objection to form.

MR. PHILLIPS: Same objection I articulated

before. This is clearly beyond the scope of the report.

BY MR. MCCORMACK:

Q. You can answer.

A. It's hard to know. I mean, in a -- in a cocaine or methamphetamine where it's principally a dopamine urgent effect, and the LSD I don't think would have much of an effect. That's just my opinion.

I think you really would need to use a serotonin 2 antagonist or an atypical anti-psychiatric that would be a mixed effect, and with Psilocybin in clinical studies when they give them haloperidol, it actually makes the intoxication worse. It's not LSD but Psilocybin related compound.

Q. All right, Doctor. Thank you for answering the questions. I'll pass you back over to Marty.

A. I knew I'd get some more from Marty.

MR. PHILLIPS: I'll try not to disappoint you.

I want to make it clear for the record that I am reserving the objections that I made to your questions, and by asking my follow-ups, I'm not waiving any of those objections, but here we are without a judge to rule so I've got to reserve the objection and pose these questions without waiving it.

FURTHER REDIRECT EXAMINATION

BY MR. PHILLIPS:

Q. If LSD makes a person combative and makes a person thrash around, then that person would have a catecholamine release, right?

A. Probably epinephrine or norepinephrine, but not necessarily dopamine.

Q. But those are catecholamines, too, aren't they?

A. Yes.

Q. And if LSD caused a person to be combative and thrash around and resist restraints, then that person would, too, have a physiological response, right?

A. Yes.

Q. Maybe not directly from the LSD, but from the behavior that the LSD is causing, right?

A. Well, the LSD would magnify their perceptions, and so if I can sort of infer what you're trying to ask, it would magnify their perceptions of what was happening. So anything that they did would probably be exaggerated.

So if they were thrashing around or trying to thrash around or if they were in restraints, they could be fighting because they might see it as a life-threatening situation.

Q. And that behavior, that conduct on the part of the person would result in a physiological impact on the

person, right?

A. Yes.

Q. If Troy Goode had not taken LSD, he probably would not have died, true?

A. True.

Q. Are you aware that in the medical literature, including literature in the emergency medicine field, it has been reported that LSD has precipitated excited delirium?

A. I can only recall one publications -- one publication where they -- where they speculate on that. It's a 1993 publication.

Q. Are you aware of some medical literature that says LSD can precipitate excited delirium?

A. One publication.

Q. You are aware of some literature that says that, and the answer is yes?

A. Yes.

Q. I think that's it, Dr. Nichols. I'm grateful for the time you've given us.

RECROSS-EXAMINATION

BY MR. MCCORMACK:

Q. I have some follow-ups based on that. You mentioned that there was one article you know of that discusses LSD being connected to excited delirium.

Was that a study; a case study? What form of publication was that?

A. That was O'Halloran, 1993. It was a case study of a young boy who ingested LSD, had a bad trip, broke or jumped out of a window, was very agitated, combative, and they tried to catch him to suture -- if I remember, to suture his lacerations and they couldn't restrain him. So then they restrained him and essentially hogtied him to get him under control and then he died.

The paper had to do with -- the topic was restraint asphyxiation. So there were several case reports now where they were talking about how restraining him had caused his asphyxiation and that was the case that they used, but that was the only one where they had -- that one seems to be the one case that people cite back to when they talk about LSD producing excited delirium.

It's not something that you see. You see what's thrown out, what's cocaine, methamphetamine, also PCP and LSD, but that, as far as I can tell, is the only case.

Q. You were asked a question about restraints and you were asked rather bluntly if Troy Goode had not taken LSD would he have died.

If Troy Goode had not been restrained in the

hogtied position, do you believe he would have died from the LSD?

A. No.

Q. If Troy Goode had --

MR. UPCHURCH: Object to form. Object to the form. Outside the scope and also foundation.

BY MR. MCCORMACK:

Q. If Troy Goode had not been restrained, do you believe that the LSD that he had taken was toxic in any way?

A. Other than --

MR. UPCHURCH: Same objection.

THE WITNESS: Other than the bad trip, no.

BY MR. MCCORMACK:

Q. Do you believe that the bad trip that he was having would have killed him in the absence of his interactions with the defendants in this case?

A. No. I think if he hadn't had his interaction with the police, he'd still be alive.

Q. Is that your opinion to a reasonable degree of scientific certainty?

A. Well, no one else had a bad --

MR. UPCHURCH: Same objection.

THE WITNESS: No one else having a bad trip has ever died. I mean, a bad trip doesn't kill people.

BY MR. MCCORMACK:

Q. You said no one else having a bad trip has ever died. How many people have taken LSD?

A. The estimate is more than 30 million people.

Q. And of those, how many deaths have been attributed -- that could be contributed to a person having a bad trip?

A. Other than injuring themselves physically, trying to climb, etc., there -- there are none people having a bad trip. Not from the direct effects.

Q. Thank you, Doctor. That's all I've got.

MR. MCCORMACK: Any follow-ups to that, Marty?

MR. PHILLIPS: No more questions.

MR. MCCORMACK: We will read.

MR. DILLARD: This is Brad. I do have a couple follow-ups based on the doctor's testimony.

MR. MCCORMACK: Go ahead, Brad.

RECROSS-EXAMINATION

BY MR. DILLARD:

Q. Dr. Nichols, you made a statement that Mr. Goode's encounter with the police led to his death and I just want to be clear.

You would agree that his usage of LSD on the night in question led to his encounter with the police department, correct?

A. Yes.
Q. It also led to his encounter with emergency personnel, EMTs, that night, correct?
A. Yes.
Q. It also led to his encounter with physicians and nurses at Baptist Hospital, correct?
A. Yes.
Q. Would you agree with me that you are not qualified by virtue of your education, training, and experience to render any criticism of the Southaven Police Department or EMTs in regard to their interactions with Mr. Goode on the night in question?
A. All I can opine on is the fact that the LSD would not have killed him, and so whatever interactions he had beyond that must have been responsible for his death.
Q. The question, though, is, do you have any specific training, education, or experience in regard to police procedures, EMS, administration of care, issues such as that?
A. No, I'm not trained in that area.
Q. And you're not rendering any opinions in regard to any of those types of areas, correct?
A. Nothing other than what I've stated already.
Q. Thank you.
MR. MILLER: Counsel, I've got a couple of

housekeeping. Did you-all get the e-mail I sent with the exhibits?

MR. DILLARD: I did not.

MR. UPCHURCH: I did.

MR. MILLER: All right. Ric got it, Brad got it. Ric didn't?

MR. GASS: Ric did not. Brad did.

MR. MILLER: All right. I've got your Gass at GWMlaw.com. I'll try to send that again to you, Ric.

MR. GASS: Okay. Thank you.

MR. MILLER: And also everyone, Joseph Baker in our office is not licensed in Mississippi. He's not on this case. So there's no need to e-mail, copy him on letters, put him on a certificate of service. Just so that will help out. That's Joseph Baker. He can be taken off.

MR. DILLARD: I just forward the documents to Ric and to David.

MR. MILLER: Thank you so much, friend.

MR. UPCHURCH: Thanks, Brad.

MR. DILLARD: You're welcome.

MR. PHILLIPS: Okay, gentlemen, we're going to disconnect. Thanks, everybody. Have a good Labor Day weekend.

MR. UPCHURCH: Thank you. Appreciate it.

(Deposition concluded at 12:16 p.m.)

REPORTER'S CERTIFICATE

I, JOAN COMPARATO, Court Reporter and Notary Public in and for the State of North Carolina at Large, do hereby certify that the foregoing proceedings were taken before me at the time and place therein set forth, at which time the witness was put under oath by me; that the testimony of the witness, the questions propounded, and all objections and statements made at the time of The examination were recorded stenographically by me and were thereafter transcribed; that the foregoing is a true and correct transcript of my shorthand notes so taken.

I further certify that I am not a relative or employee of any attorney of the parties, nor am I financially interested in the action.

I declare under penalty of perjury under the Laws of North Carolina that the foregoing is true and correct.

DATED this 13th day of September, 2017.

JOAN COMPARATO

Commission #20162030000

(Review and Signature was requested)

AB088A9

STATE OF NC)
) SS.
COUNTY OF Chatham)

I, the undersigned, declare under penalty of perjury that I have read the foregoing transcript, and I have made any corrections, additions or deletions that I was desirous of making; that the foregoing is a true and correct transcript of my testimony contained therein.

EXECUTED this 2nd day of October, 2017, at Chapel Hill (City), NC (State).

AMANDA LEDFORD
Notary Public
Clay Co., North Carolina
My Commission Expires May 28, 2020

David E. Nichols

David E. Nichols, Ph.D.

G.S. § 10B-43 NOTARIAL CERTIFICATE FOR AN OATH OR AFFIRMATION

Chatham County, North Carolina

Signed and sworn to before me this day by David E. Nichols
Name of principal

Date: 10/2/17

(Official Seal)

Amanda Ledford
Official Signature of Notary

AMANDA LEDFORD
Notary Public
Clay Co., North Carolina
My Commission Expires May 28, 2020

Amanda Ledford Notary Public
Notary's printed or typed name

My commission expires: 5/28/2020

AB088A9 SEPTEMBER 25, 2017

LETTER TO DEPOSITION OFFICER/ERRATA SHEET

DEPOSITION OF: DAVID E. NICHOLS, PH.D.

DATE OF DEPOSITION: SEPTEMBER 1, 2017

CASE: KELLI DENISE GOODE, ETC. VS. THE CITY OF SOUTHAVEN, ET AL.

The following are the corrections which I have made to my transcript:

PAGE#	LINE#	CORRECTION	REASON FOR CORRECTION
8	3	Schedule	NOT SCHEDULED
16	14	insert "they" after than	Missing word
23	11	simplex should be sympathetic	
24	14	uncommon should be common	
24	15	Hallucination should be Hallucinogen	
24	21, 21, 23	Hypothermia should be hyperthermia	
30	11	incidents should be incidence	
36	10	Goodman and Gilman	
37	6, 7	Joan should be Genome	

Please sign your name and date it on the below line. As needed, use additional paper to note corrections, dating and signing each page. If you have no corrections, please write the word "None" above and sign, date, and return this page.

EXECUTED this 2nd day of October, 2017,

at Chapel Hill (City), NC (State),

David E Nichols
(Signature)

AMANDA LEDFORD
Notary Public
Clay Co., North Carolina
My Commission Expires May 28, 2020

Nichols Deposition Corrections, continued.

PAGE#	LINE#	Correction	Reason
38	12	pick should be picked	wrong tense
39	19	Insert "from" after I'm	Missing word
48	13	"role playing" is wrong but I don't know what was actually said	
53	21	"Charlie" should be "Charlotte"	
63	7	Insert "recreational" before doses	Missing word
64	25	The word "no" should be deleted	I answered in the affirmative
65	25	Change "animal" to "analogue"	Reported misunderstood
66	13	The word "and" should be "on"	Misunderstood
66	21&22	The name is Carl Lietz	
66	22	The name is Eliel	
79	24	"pair synthetic" should be parasympathetic	
90	12	"endo" should be NBOMe	
91	9	Insert the word "on" after working	
91	12	Insert the word "on" after working	
92	18	The word parameter should be pyramidal	
92	20	Insert the word "in" after mostly	
93	1	Cortical granule cell should be apical dendrite	This is the only phrase consistent with the context of the answer
93	5&7	The word parameter should be pyramidal	
93	13	assetized should be sensitized	
93	24	nullity should be novelty	
94	12&13	"*So we're sitting here in ICU and him and him and him*" I would have to hear the tape to know what was actually said here	
94	23	Intra-opt should be intra-module	
95	14	Synapsis should be synapses	
95	23	"Dopamine urgent" should be dopaminergic	
95	24	The word "use" should be changed to cause	
102	23	synapsis should be synapses	
103	2	WD2 should be D2	
103	4	"before" should be D4	
103	6	psycho stimulant should be one word	
104	8	the word "as" should be "has"	
106	24	angiolithics should be anxiolytics	
108	23	the word "down" should be "now"	
109	24	the word "and" should be "at"	
111	10	"anti-psychiatric" should be "antipsychotic"	
111	14	insert "is a" before "related"	

EXECUTED this 2nd day of October, 2017

at Chapel Hill (City), NC (State)

Daniel E Nichols
(Signature)

AMANDA LEDFORD
Notary Public
Clay Co., North Carolina
My Commission Expires May 28, 2020